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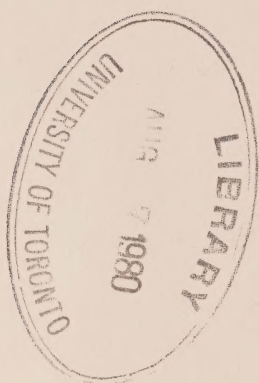
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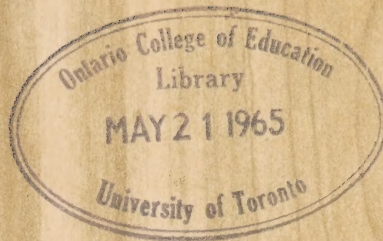






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# *Annual Report*

OF THE MINISTER OF LANDS AND FORESTS

OF THE PROVINCE OF ONTARIO

for the fiscal year ending

MARCH 31, 1964



ONTARIO





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THE DETAILED

# ANNUAL REPORT

of the

**Minister of Lands and Forests**

of the

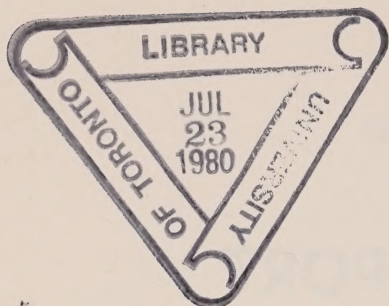
**PROVINCE OF ONTARIO**

For the Year ending March 31st, 1964



ONTARIO

**DEPARTMENT OF LANDS AND FORESTS**



TO HIS HONOUR,

*The Lieutenant-Governor  
of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

The undersigned begs respectfully to present to your Honour, the Annual Report of the Department of Lands and Forests for the fiscal year beginning April 1st, 1963, and ending March 31, 1964.

A handwritten signature in cursive script, reading "Kelso Roberts".

A. KELSO ROBERTS,

*Minister*



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## NEW POLICIES

### FISH AND WILDLIFE BRANCH

The training of conservation officers was intensified. A training officer was appointed and field training courses were instituted.

Importation of live bait minnows from the United States was prohibited.

### FOREST PROTECTION BRANCH

The training of Indian fire fighting crews was formalized.

### LANDS AND SURVEYS BRANCH

The public are allowed to camp on Crown Lands up to three weeks without charge.

Land fronting on, and islands in the Great Lakes have been withdrawn from disposition.

The leasing of sites for signs adjacent to King's Highways has been discontinued.

Owners of leases for land for commercial purposes may purchase outright after completion of building and other conditions.

### LAW BRANCH

Copies of letters patent (granting land in a registry division), are sent to the Provincial Secretary, rather than summaries of the letters, so that quarterly reports to the registrars of deeds consist of true copies.

### PARKS BRANCH

A new method of compiling camper statistics was adapted.

## RESEARCH BRANCH

The established policy of dealing with new aspects of resource research as fast as staff and funds permit was exemplified this year in the authorization of the "walleye project", to study this very important game fish.

## TIMBER BRANCH

Assistance is offered to private land owners through district offices including examination of timber land, planning, marking, estimating, sales agreements and marketing information. The service is limited to four days per individual owner per year.





**A good bounty for his wolf pelts will be paid to this  
Nipigon, Ontario trapper by the Department.**



**Timber being removed from Larose Forest, Kemptville District, October, 1963.**

## ACCOUNTS BRANCH

**D**URING the year ended March 31st, 1964, cash receipts of the Department of Lands and Forests totalled \$23,224,226.29. Total cash disbursements amounted to \$31,372,153.84, representing an excess of \$8,147,927.55 in disbursements over receipts.

Total receipts show a nominal increase over the previous year, due mostly to the sale of Crown timber.

The increase in expenditures on the ordinary account is due to higher operating costs and normal expansion.

# ACCOUNTS BRANCH

*Chief:* R. R. MacBean

*Assistant Chief:* F. M. Baker

## INTERNAL AUDIT

Internal Audit & Field Inspections

## SYSTEMS & PROCEDURES

## REVENUE ACCOUNTING

Cash Receiving, Accounts Receivable  
Issue of Fish & Wildlife Licences,  
Park Permits, Timber Accounts, Land Sales,  
Land Tax, Rentals

## EXPENDITURE & GENERAL ACCOUNTING

Payrolls, Accounts Payable  
Accounting Machine Operations

## BUDGET ACCOUNTING

Budget Estimates & Forecasts,  
Financial Reports

## LAND TAX ADMINISTRATION

Assessments, Appeals, Addressograph

## GENERAL

Secretarial  
Department Mail Services



# FINANCIAL REPORT

For Year Ended March 31st, 1964

## 1. Cash Receipts and Disbursements

The following shows the result of operations for the year:

Total — Cash Disbursements .....	\$31,372,153.84
Cash Receipts .....	23,224,226.29
Excess of Disbursements over Receipts .....	\$8,147,927.55

## 2. Comparison of Receipts and Disbursements with those of the Previous Two Years

### (a) Receipts

Branch	Years ending March 31st		
	1962	1963	1964
	\$	\$	\$
Main Office .....	1,281,756.	1,900,718.	1,621,528.
Fish and Wildlife .....	5,054,516.	5,324,796.	5,598,081.
Forest Protection .....	75,803.	84,250.	138,809.
Lands and Surveys .....	1,085,012.	1,062,874.	1,095,047.
Parks .....	990,311.	1,370,563. (1)	1,254,967.
Timber .....	13,518,005.	12,816,859.	13,515,794.
Conservation Authority .....		13,800.	
	<u>22,005,403.</u>	<u>22,573,860.</u>	<u>23,224,226.</u>

(1) Includes \$218,916.40 Federal contribution under Campgrounds and Picnic Areas Agreement.

### (b) Disbursements

	\$	\$	\$
Chargeable to Ordinary Account .....	26,606,121.	25,579,140.	27,815,028.
Chargeable to Capital Disbursements ..	1,413,973.	2,934,927.	3,557,125.
	<u>28,020,094.</u>	<u>28,514,067.</u>	<u>31,372,153.</u>

# STATEMENT OF RECEIPTS

For Year Ending

## RECEIPTS

### MAIN OFFICE

Provincial Land Tax .....	\$ 1,404,035.97	
Sale of Maps, Casual Fees, etc. ....	128,947.54	
	<hr/>	
	\$ 1,532,983.51	
Government of Canada Repayments under Technical and Vocational Training Agreement.....	88,544.16	\$1,621,527.67
	<hr/>	

### FISH AND WILDLIFE BRANCH

Licences, Royalties and Sundry (See Statement No. 3) .....	5,598,080.88
--	--------------

### FOREST PROTECTION BRANCH

Forest Protection Section		
Recovery of Fire Fighting Costs and Miscellaneous .....	102,406.45	
Air Service Section		
Flying Fees .....	36,402.34	138,808.79
	<hr/>	

### LANDS AND SURVEYS BRANCH

Lands Section		
Land Sales (Capital) .....	\$ 577,472.39	
Land Rentals		
Leases and Licences of Occupation .....	313,955.53	
Perquisites—Rentals .....	152,694.12	
Miscellaneous .....	16,522.89	
Park Rentals		
Leases and Licences of Occupation		
Algonquin .....	\$ 14,048.76	
Rondeau .....	17,212.04	
Presqu'ile .....	2,129.77	
Long Point .....	813.64	
Sundry Parks .....	197.60	
	<hr/>	
	34,401.81	1,095,046.74
	<hr/>	

### PARKS BRANCH

Park Concessions		
Rentals .....	\$ 84,125.23	
Permits (All Parks)		
Vehicle .....	\$554,097.50	
Campsite .....	599,440.25	
Boat .....	9,880.00	
Guide .....	4,425.00	
	<hr/>	
	1,167,842.75	
Miscellaneous .....	2,999.87	1,254,967.85
	<hr/>	
Carried Forward		\$ 9,708,431.93

**AND DISBURSEMENTS**

March 31st, 1964

**DISBURSEMENTS****MAIN OFFICE**

Minister's Salary — Statutory .....		\$ 12,000.00	
Salaries .....	\$1,047,249.78		
Travelling Expenses .....	33,798.25		
Maintenance .....	172,783.24	1,253,831.27	
<hr/>			
Public Information and Education .....		278,242.96	
Damages and Other Claims, etc. ....		1,897.94	
Workmen's Compensation .....		142,069.32	
Annuities and Bonuses to Indians .....		34,752.00	
Unemployment Insurance .....		65,903.09	
Advisory Committee to Minister .....		2,095.38	
Grant to Ontario Forestry Association .....		10,000.00	\$1,800,791.96
<hr/>			

**BRANCHES****CONSERVATION AUTHORITIES**

Salaries .....	311,000.00		
Travelling Expenses .....	12,840.63		
Maintenance .....	8,997.64	332,838.27	
<hr/>			
River Valley Conservation Surveys .....		108,903.40	
Grants to Conservation Authorities (See Statement No. 8) .....		498,884.81	
Grants to Municipalities for Municipal Camping Areas (See Statement No. 6) .....		116,286.14	1,056,912.62
<hr/>			

**FISH AND WILDLIFE**

Salaries .....	368,506.83		
Travelling Expenses .....	38,714.93		
Maintenance .....	113,668.23	520,889.99	
<hr/>			
Grants			
Jack Miner Migratory Birds Foundation Inc. ....	3,000.00		
Thomas N. Jones .....	300.00		
Ontario Fur Breeders' Association Inc. ....	5,000.00		
Ontario Council of Commercial Fisheries .....	4,000.00		
Ontario Trappers' Assn. ....	5,000.00	17,300.00	
Wolf Bounty .....		49,999.00	588,188.99
<hr/>			

**FOREST PROTECTION**

Salaries .....	\$152,654.14		
Travelling Expenses .....	7,468.31		
Maintenance .....	14,913.89	175,036.34	
<hr/>			

Carried Forward

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\$3,620,929.91



# RECEIPTS

For Year Ended March 31st, 1964

Brought Forward

\$9,708,431.93

## TIMBER BRANCH

Timber Section (See Statement No. 2)

Timber Dues, Bonus, etc..... \$13,286,837.41

Cash Deposits ..... 48,799.74

Government of Canada —

Forestry Agreement ..... 3,945.98      \$13,339,583.13

Logging Roads—Recovery of

Construction Costs (Capital) ..... 62,584.43

Reforestation Section

Sale of Nursery Stock ..... 113,626.80      13,515,794.36

TOTAL RECEIPTS .....

\$23,224,226.29

Excess of Disbursements over Receipts.....

8,147,927.55

\$31,372,153.84

**DISBURSEMENTS**

For Year Ended March 31st, 1964

Brought Forward

\$ 3,620,929.91

**LANDS AND SURVEYS**

Salaries .....	\$456,863.59		
Travelling Expenses .....	10,963.59		
Maintenance .....	18,931.12	\$	486,758.30
Cadastral Surveys .....			308,337.43
Storage Dams — Control and Maintenance .....			6,055.96
Grant — Association of Ontario Land Surveyors .....			200.00
			<u>801,351.69</u>

**PARKS**

Salaries .....	\$ 91,854.22		
Travelling Expenses .....	7,996.18		
Maintenance .....	5,400.23	\$	105,250.63
Parks Improvements .....			1,166,971.18
			<u>1,272,221.81</u>

**RESEARCH**

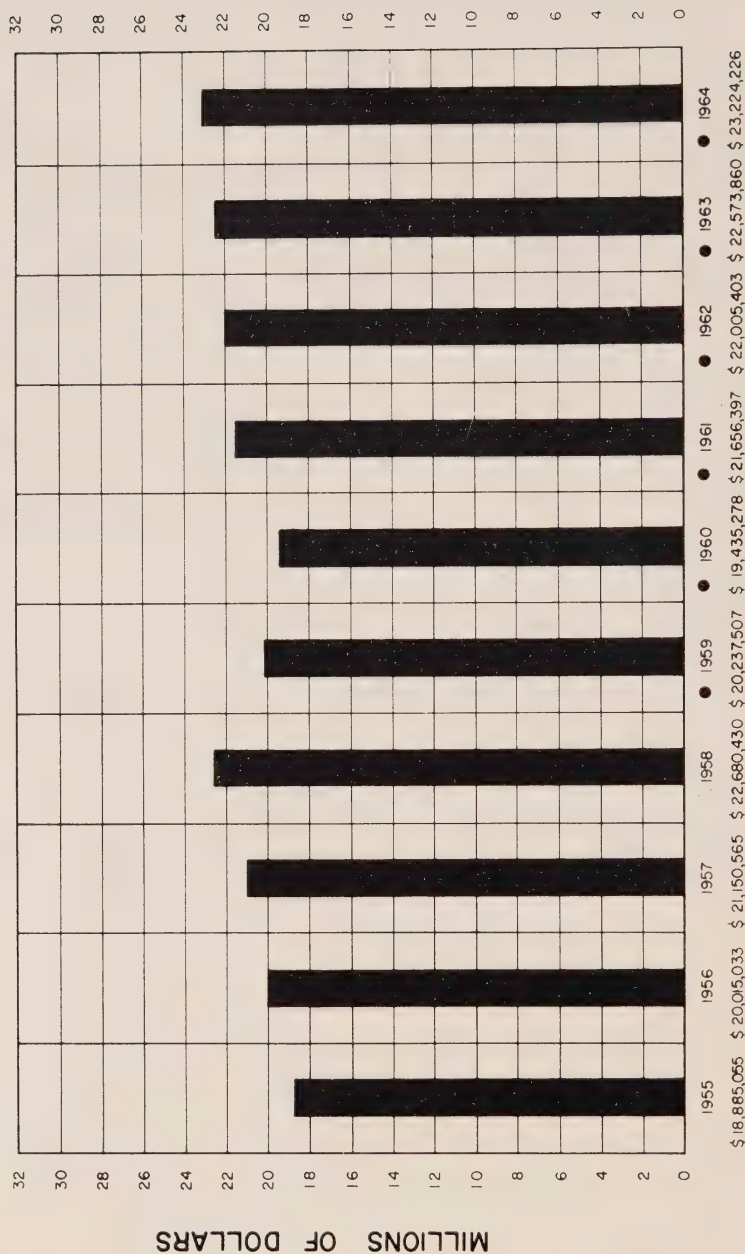
Salaries .....	\$745,514.31		
Travelling Expenses .....	44,069.07		
Maintenance .....	134,811.19	\$	924,394.57
Grant — Ontario Research Foundation .....			44,990.96
			<u>969,385.53</u>

**TIMBER**

Salaries .....	\$596,727.38		
Travelling Expenses .....	30,947.33		
Maintenance .....	184,678.00	\$	812,352.71
Grants to Municipalities and Conservation Authorities (See Statement No. 5) .....			221,007.69
			<u>1,033,360.40</u>

# TREND OF TOTAL ANNUAL RECEIPTS

FOR THE TEN YEARS ENDED 31st. MARCH 1964





## Statement No. 1 (Cont'd.)

## FIELD SERVICES

## BASIC ORGANIZATION — District Offices

Salaries .....	\$13,215,533.77	
Travelling Expenses .....	572,027.92	
Maintenance and Operating .....	3,783,600.04	
Equipment — other than Forest Fire Suppression .....	1,005,194.48	
Maintenance Forest Access Roads	348,888.17	18,925,244.38
Less — Federal Contribution .....	1,039,042.28	17,886,202.10

## EXTRA FIRE FIGHTING

Wages, etc., Maintenance and Operating .....	\$ 1,086,369.55	
Forest Fire Suppression Equipment .....	238,273.25	1,324,642.80
Carried Forward		\$ 26,908,094.24

## FOREST RANGER SCHOOL

Salaries, Travelling Expenses, Maintenance and Operating .....	196,527.81
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## JUNIOR RANGER PROGRAM

Wages, Travelling Expenses, Maintenance and Operating .....	652,406.61
--	------------

## GRANT TO NIAGARA PARKS COMMISSION

58,000.00

## GRANTS TO CONSERVATION AUTHORITIES (CAPITAL)

(See Statement No. 7) .....	\$ 4,647,396.07	
Less: Federal Contributions .....	1,551,252.65	3,096,143.42

## LOGGING ROADS (CAPITAL)

Construction Costs (Recovered — See Receipts)	62,584.43
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## LAND ACQUISITION (CAPITAL)

Parks, Recreational Areas, Public Hunting and Fishing Areas, etc. ....	398,397.33
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## TOTAL DISBURSEMENTS

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\$ 31,372,153.84

# TIMBER

## TIMBER

### ANALYSIS OF CASH

For Year Ending

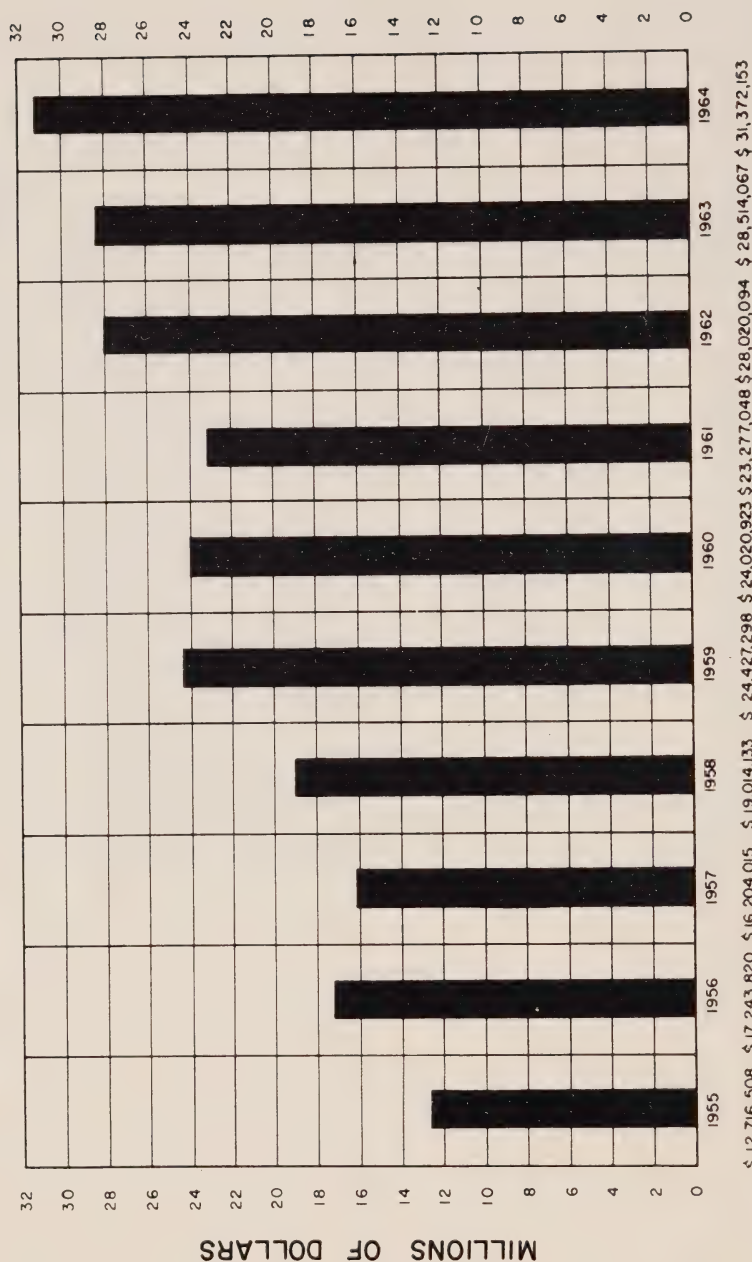
Districts	Crown Dues	Ground Rent	Fire Protection Charges	Interest & Scalers' Wages, Mill Licences, Etc.
Chapleau .....	\$ 342,197.42	\$ 1,281.00	\$ 16,396.80	\$ 1,845.82
Cochrane .....	1,207,305.15	7,264.00	92,979.20	644.72
Fort Frances .....	461,371.94	881.00	11,276.80	117.11
Geraldton .....	1,586,568.80	13,614.00	174,259.20	118.00
Gogama .....	249,216.05	1,218.00	15,590.40	265.91
Kapuskasing .....	1,630,930.44	7,018.00	89,830.40	185.00
Kenora .....	1,082,977.93	10,762.00	137,753.60	233.43
Lindsay .....	100,574.28	164.00	2,099.20	648.06
North Bay .....	606,281.75	3,337.00	42,754.00	5,007.89
Parry Sound .....	246,699.94	1,378.00	17,666.06	338.97
Pembroke .....	598,917.47	4,234.00	55,098.42	236.50
Port Arthur .....	989,439.51	12,749.00	82,587.83	498.25
Sault Ste. Marie .....	928,448.11	5,975.00	76,732.14	3,388.67
Sioux Lookout .....	540,651.37	1,575.00	20,159.99	3,705.94
Sudbury .....	398,961.97	4,459.00	62,298.80	1,012.25
Swastika .....	481,463.12	2,064.00	27,219.40	477.49
Tweed .....	277,351.40	568.00	7,270.40	555.26
White River .....	431,271.41	2,979.00	39,666.20	21.00
Other Districts .....	34,333.95	2.00	17,593.94	1,820.35
	\$12,194,962.01	\$81,522.00	\$989,232.78	\$21,120.62
	91.76%	.61%	7.45%	.16%

**BRANCH****SECTION****RECEIPTS BY DISTRICTS**

March 31st, 1964

Federal Forestry Agreement	Total Timber Revenue	Cash Deposits Received & Refunded	Total Timber Revenue & Cash Deposits	Percentages of Total Timber Revenue & Cash Deposits
	361,721.04		361,721.04	2.71
	1,308,193.07	6,090.00	1,314,283.07	9.86
	473,646.85	4,300.00	477,946.85	3.58
	1,774,560.00		1,774,560.00	13.30
	266,290.36	3,000.00	269,290.36	2.02
	1,727,963.84	10,000.00 (Cr.)	1,717,963.84	12.88
	1,231,726.96	5,025.00	1,236,751.96	9.27
	103,485.54	2,588.80	106,074.34	.80
	657,380.64	5,365.57	662,746.21	4.97
	266,082.97	8,550.00	274,632.97	2.06
	658,486.39	13,200.00	671,686.39	5.04
	1,085,274.59	500.00 (Cr.)	1,084,774.59	8.14
	1,014,543.92	2,000.00	1,016,543.92	7.62
	566,092.30		566,092.30	4.24
	466,732.02	4,200.00	470,932.02	3.53
	511,224.01	1,130.94 (Cr.)	510,093.07	3.82
	285,745.06	6,211.31	291,956.37	2.18
	473,937.61	100.00 (Cr.)	473,837.61	3.55
3,945.98	57,696.22		57,696.22	.43
\$3,945.98	\$13,290,783.39	\$48,799.74	\$13,339,583.13	100.00%
.02%	100%			

# TREND OF TOTAL ANNUAL DISBURSEMENTS FOR THE TEN YEARS ENDED 31st. MARCH 1964





# FISH AND WILDLIFE BRANCH

## Analysis of Cash Receipts

For Year Ended March 31st, 1964

### FISHERIES

#### Licences

Angling .....	\$2,685,219.22	
Commercial Fishing .....	94,207.00	
Smelt .....	18,495.95	
To Sell Fish .....	480.00	
	<hr/>	
	\$2,798,402.17	

#### Royalty

Commercial Fishing .....	2,541.28	\$2,800,943.45
	<hr/>	

#### Game

#### Licences

Non-Resident Hunting .....	\$1,125,018.85	
Bear .....	1,782.25	
Deer .....	457,360.73	
Moose .....	393,295.85	
Ground Hog .....	33,351.51	
Gun .....	321,180.60	
Dog .....	24,810.60	
Trappers .....	37,009.00	
Fur Dealers .....	3,844.00	
Fur Farmers .....	4,885.00	
Pheasant .....	5,210.00	
Tanners .....	110.00	
Provincial Park Hunting .....	16,998.00	
	<hr/>	
	\$2,424,856.39	

#### Royalty

Game .....	290,562.80	2,715,419.19
	<hr/>	

#### General

#### Licences

Guides .....	\$3,266.00	
Wild Rice .....	12.00	
Hunt Camp Permits .....	1,640.00	
Fines .....	46,438.69	
Costs Collected .....	1,284.40	
Sales—Confiscated Articles .....	22,975.35	
—General .....	2,134.28	
—Tags .....	1,865.35	
Miscellaneous .....	579.82	
Government of Canada—Resources		
Development Agreement .....	1,522.35	81,718.24
	<hr/>	
		<u>\$5,598,080.88</u>

# TOTAL EXPENDITURE ALLOCATED

For Year Ended

	Total \$	Forest Protection \$	Lands \$	Timber \$
<b>Ordinary Expenditure</b>				
Main Office .....	1,800,791.96	401,576.77	81,588.05	437,647.73
Conservation Authorities Branch .....	1,056,912.62			
Fish and Wildlife Branch .....	588,188.99			
Forest Protection Branch .....	175,036.34	175,036.34		
Lands and Surveys Branch .....	801,351.69		120,683.56	
Parks Branch .....	1,272,221.81			
Research Branch .....	969,385.53			
Timber Branch .....	1,033,360.40			1,033,360.40
Forest Ranger School .....	196,527.81	16,351.11		129,079.47
Junior Ranger Program .....	652,406.61	175,021.82	213.53	160,718.48
Basic Organization (before deduction of Federal contribution of \$1,079,042.28) .....	18,965,244.38	5,873,237.50	481,616.08	5,922,400.13
Extra Fire Fighting (wages and equipment) .....	1,324,642.80	1,324,642.80		
Grant to Niagara Parks Commission .....	58,000.00			
	28,894,070.94	7,965,866.34	684,101.22	7,683,206.21

## Distribution of General Expenditure and Administration Costs Over Main Services

Field Administration (pro-rated) ..	564,940.44	58,095.95	630,939.16
— Percentage .....	26%	3%	30%
Research (as per analysis) .....	44,305.69		521,470.32
Surveys (pro-rated) .....		746,315.13	15,879.05
— Percentage .....		94%	2%
	28,894,070.94	8,575,112.47	1,488,512.30
			8,851,494.74

## Less: Federal Contributions Applied As Credits

Forestry Agreement				
— Forest Inventory (as per costs) ..	200,000.00	50,000.00	30,000.00	80,000.00
— Planting .....	500,000.00			500,000.00
— Stand Improvements .....	127,601.03			127,601.03
— Fire Fighting Equipment .....	162,416.97	162,416.97		
Resources Development Agreement ..	89,024.28			

## TOTAL ORDINARY EXPENDITURE

### Capital Disbursements

Grants to Conservation Authorities ..	3,096,143.42			
Construction of Logging Roads .....	62,584.43			62,584.43
Acquisition of Land .....	398,397.33	452.00	28,632.57	11,947.50

## TOTAL DISBURSEMENTS

Percentage of Total .....	31,372,153.84	8,363,147.50	1,487,144.87	8,218,425.64
		26.66%	4.74%	26.20%

## TO MAIN SERVICES RENDERED

31st March, 1964

Fish and Wildlife \$	Parks \$	Conservation Authorities \$	Research \$	Surveys \$	Field Admin- istration \$
290,994.58	245,085.79	121,053.13	64,446.68	42,775.26	115,623.97
588,188.99		1,056,912.62			
	1,272,221.81		969,385.53	680,668.13	
51,097.23					
7,646.24	304,343.12				4,463.42
2,821,856.21	1,755,187.92	22,821.16	66,326.80	6,005.27	2,015,793.31
	58,000.00				
3,759,783.25	3,634,838.64	1,200,786.91	1,100,159.01	729,448.66	2,135,880.70
325,721.81	288,343.89	106,153.27	97,182.57	64,593.61	*2,135,880.70
15%	13%	5%	5%	3%	
631,565.57			*1,197,341.58		
7,939.52	23,818.57			*793,952.27	
1%	3%				
4,725,010.15	3,947,001.10	1,306,940.18			
40,000.00					
89,024.28					
4,595,985.87	3,947,001.10	1,306,940.18			
		3,096,143.42			
13,605.67	343,759.59				
4,609,591.54	4,290,760.69	4,403,083.60			
14.69%	13.68%	14.03%			

\*Deductions



## Statement No. 5

Grants to Municipalities and Conservation  
 Authorities Under the Forestry Act, R.S.O. 1960  
 (To aid in acquisition of Forest Areas)

## MUNICIPALITIES:

## Counties:

Bruce .....	\$3,019.25	
Dufferin .....	5,399.72	
Grey .....	1,962.65	
Huron .....	1,419.35	
Lanark .....	634.15	
Middlesex .....	14,060.70	
Ontario .....	2,029.10	
Renfrew .....	8,807.60	
Simcoe .....	11,765.33	
York .....	3,810.68	
Townships:		
Machar .....	328.11	\$53,236.64

## CONSERVATION AUTHORITIES:

Ausable River .....	\$ 3,168.12	
Big Creek Region .....	6,408.62	
Catfish Creek .....	100,138.86	
Central Lake Ontario .....	4,145.23	
Crowe Valley .....	650.50	
Ganaraska Region .....	1,257.75	
Grand Valley .....	3,237.86	
Maitland Valley .....	4,318.22	
Metropolitan Toronto and Region .....	12,364.26	
Moirs River .....	2,100.64	
Napanee Valley .....	1,609.05	
Niagara Peninsula .....	4,911.20	
North Grey .....	6,635.17	
Otonabee Region .....	2,413.97	
Otter Creek .....	3,683.82	
Sauble Valley .....	7,105.95	
Saugeen Valley .....	1,525.61	
South Nation River .....	1,231.15	
Upper Thames River .....	865.07	167,771.05
		<u>\$221,007.69</u>

Statement No. 6

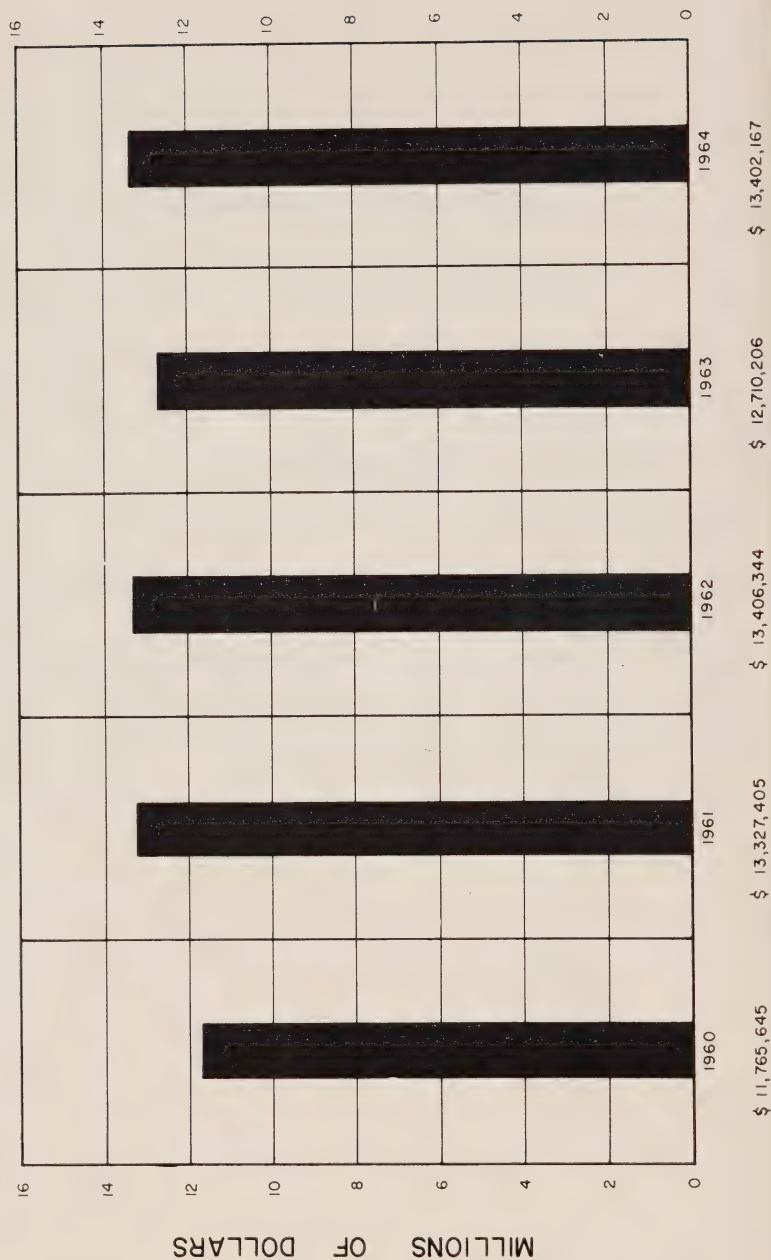
Grants to Municipalities for Municipal Camping Areas  
Under the Parks Assistance Act, R.S.O. 1960

MUNICIPAL CAMPING AREAS:

Township of Bexley .....	\$ 10,750.00
Town of Blind River .....	4,123.02
Village of Bobcaygeon .....	7,000.00
Town of Cochrane .....	969.16
City of Fort William .....	5,776.98
Town of Goderich .....	2,634.46
County of Haldimand .....	5,208.10
Town of Huntsville .....	1,335.90
Town of Kenora .....	7,473.18
Village of L'Original .....	9,886.67
Town of Orillia .....	11,339.13
City of Peterborough .....	31,924.33
City of Sarnia and Township of Sarnia .....	8,700.47
Township of Shuniah .....	608.37
Town of Thessalon .....	3,418.41
Town of Wingham .....	5,137.96
	<hr/>
	<u>\$116,286.14</u>

# TREND OF DEPARTMENTAL TIMBER REVENUE

CROWN DUES - GROUND RENT - FIRE PROTECTION CHARGES & MISCELLANEOUS  
FOR THE FIVE YEARS ENDED 31st. MARCH 1964



Grants to Conservation Authorities  
Under the Conservation Authorities Act, R.S.O. 1960  
as amended 1961-62

Conservation Authorities

	Administration	Development	Total
Ausable River .....	\$ 17,235.52	\$ 53,165.92	\$ 70,401.44
Big Creek Region .....	11,725.00	7,810.45	19,535.45
Catfish Creek .....	1,241.86	9,350.00	10,591.86
Central Lake Ontario .....	1,797.34		1,797.34
Credit Valley .....	23,108.74	86,303.80	109,412.54
Crowe Valley .....	1,426.02	648.07	2,074.09
Ganaraska Region .....	2,424.15	305.15	2,729.30
Grand Valley .....	45,038.74	115,113.19	160,151.93
Halton Region .....	897.08	703.02	1,600.10
Holland Valley .....	4,011.39	22,483.70	26,495.09
Junction Creek .....	1,985.99	8,402.18	10,388.17
Lakehead Region .....	886.13		886.13
Lower Thames Valley .....	5,485.12	6,242.07	11,727.19
Maitland Valley .....	10,744.51	8,630.19	19,374.70
Mattagami Valley .....	1,072.25		1,072.25
Metropolitan Toronto and Region .....	228,894.00	3,407,128.00	3,636,022.00
Moirs River .....	7,758.76	4,867.38	12,626.14
Napanee Valley .....	1,343.32	718.74	2,062.06
Niagara Peninsula .....	18,000.00	20,571.32	38,571.32
North Grey Region .....	6,496.85	18,191.75	24,688.60
Nottawasaga Valley .....	921.20	562.79	1,483.99
Otonabee Region .....	10,579.13	6,785.38	17,364.51
Otter Creek .....	4,897.11	504.09	5,401.20
Sauble Valley .....	2,133.79	3,834.69	5,968.48
Saugeen Valley .....	13,303.00	6,951.87	20,254.87
Sixteen Mile Creek .....	11,250.00	35,739.42	46,989.42
South Nation River .....	466.93		466.93
Spencer Creek .....	3,796.96	22,609.89	26,406.85
Sydenham Valley .....	5,741.81	6,899.10	12,640.91
Twelve Mile Creek .....	11,075.00	40,440.80	51,515.80
Upper Thames River .....	42,657.76	752,433.11	795,090.87
Whitson Valley .....	489.35		489.35
	\$498,884.81	\$4,647,396.07	\$5,146,280.88
Less: Federal Contribution .....		1,551,252.65	1,551,252.65
	\$498,884.81	\$3,096,143.42	\$3,595,028.23





**A small dam creates a pond for swimming in the Credit Authority's Terra Cotta Conservation Area.**



**The channel of the Credit River at Erindale has been shaped and lined in this project of the Credit Valley Conservation Authority.**

# CONSERVATION AUTHORITIES BRANCH

ESTABLISHED in 1944 as a part of the Department of Planning and Development, the Conservation Authorities Branch was transferred to the Department of Lands and Forests on January 1, 1962.

The Conservation Authorities Branch is concerned with the administration of The Conservation Authorities Act (1946). Under this Act, Conservation Authorities may be established on a watershed or group of adjacent watersheds in Ontario. The Branch advises municipalities on the organization of Conservation Authorities and directs and assists these Authorities in the carrying out of conservation projects within their watersheds. The Branch is also concerned with the administration of The Grand River Conservation Act of 1938 and The Parks Assistance Act of 1960.

Conservation Authorities are autonomous and corporate bodies. They involve the concept of local responsibility for the development and management of the renewable resources of the watershed. Authorities have the power under the Act to undertake programs in all fields of conservation. The initiative to form a Conservation Authority must come from the municipal level. Once formed, the responsibility to carry out programs remains essentially within the Authority. It is only when government financial assistance is requested that the Branch examines proposed plans and projects to ascertain if provincial funds are to be wisely expended.

## CONSERVATION AUTHORITIES

On March 31, 1964, 32 Conservation Authorities were in existence. These Authorities encompass a total area of 21,952 square miles. They include 468 municipalities and have a total of 747 members.

Two new Authorities were formed during the year. One was enlarged and two were joined together to form one. In October 1963, the Raisin River Conservation Authority (208 square miles) was formed in Eastern Ontario. In November, municipalities in the Sault Ste. Marie area formed the 83-square mile Sault Ste. Marie Region Conservation Authority. In August, the Twelve Mile Creek Conservation Authority was enlarged to take in the smaller watersheds between it and the Spencer Creek Authority. In December, the Twelve Mile Creek and the Sixteen Mile Creek Conservation Authorities voted to merge. The new Authority is called the Halton Region Conservation Authority.

## Conservation Surveys and Reports

Newly established Conservation Authorities are usually not in a position to identify their conservation problems. It has been the policy of the Branch to carry out certain preliminary surveys of the watersheds of these new Authorities. Information gathered in these surveys is the basis of a conservation report to the

## CONSERVATION AUTHORITIES BRANCH

Chief: A. S. L. BARNES

### PLANNING & PROJECTS

Supervisor: F. G. Jackson

Field Supervision .....	A. D. Latornell
Wildlife & Recreation .....	K. M. Mayall
Forestry .....	P. M. R. Harvie
Parks Inspection .....	H. J. Christian
Land Use .....	

### ENGINEERING

Supervisor: J. W. Murray

Project Engineering .....	F. J. Forbes
	C. R. Leuty
Surveys .....	A. F. Smith
Flood Forecasts .....	B. P. Sangal

Hydrometeorology .....	D. N. McMullen
(Government of Canada)	



Authority. The surveys are carried out and the reports published as a service to the Authority and at no cost to it. Surveys include examination of problems associated with flooding and water control, with land use and forestry, with stream conditions and wildlife habitat and recreation.

In recent years certain special surveys have been carried out on request for some of the older-established Authorities.

The conservation reports which are compiled from survey data make recommendations to the Authority for the use and development of the watershed's renewable resources. These resources are treated on an integrated basis and the reports become a working plan for that particular Authority to follow if it so wishes.

CONSERVATION SURVEYS, 1963-64

Authority	Area	Surveys
Mattagami	984 sq. mi.	forestry, land use, wildlife
Lakehead Region	980 sq. mi.	forestry, land use, recreation
Sydenham	1,052 sq. mi.	water
Lower Thames	869 sq. mi.	water
Niagara Peninsula	950 sq. mi.	water

CONSERVATION REPORTS PUBLISHED

Big Creek Region	History Section
Crowe Valley	Printed summary of complete report
Otonabee Region	Water and Wildlife Section
Lower Thames Valley	Water and Wildlife Sections
Sydenham Valley	Land and Forest Section
	Land and Forest Section

Authority Administration

Conservation reports are presented to the Authorities for their guidance in developing a conservation program. The Authority must assume the initiative for carrying out any of the recommendations made in the report. Usually the Authority decides which measures are most urgent and these are undertaken first. An Authority program is not restricted to recommendations of the report but may include other projects outside the report's consideration.

It is government policy to provide financial assistance to the Authorities for their program. This assistance is provided for carrying out capital projects, for the administration of these projects and for general Authority work. For most Authority programs financial assistance at the present time amounts to a 50-per-cent grant.

If an Authority expects to receive financial or technical assistance from the Province for a capital project (called a scheme) it must submit a detailed description (called a brief) of the proposed project to the Conservation Authorities Branch. The scheme must be approved by the Branch and by the Minister before a grant can be given. Briefs must be submitted for such capital schemes as dams and reservoirs and other water control works and for the acquisition and development of lands for recreation, reforestation and other conservation purposes. Land purchased for conservation purposes on which recreation facilities may be developed requires prior approval of the Ontario Parks Integration Board.

Grants may also be made to Authorities for ordinary or administration costs.



Included in these costs are per diem and travel allowances to Authority members, salaries and expenses of Authority staff, office rent, equipment and most other costs involved in the administration of the Authority program. Also included in grants for administration purposes is the cost of vehicles and machinery, soil conservation assistance programs, tree planting, public relations and educational materials, land investigations and various small conservation projects.

No grants are paid towards maintenance of Authority projects. Certain preliminary engineering work done by Authorities in the early stages of planning of water control projects is eligible for a 75 per cent grant.

For large flood control schemes, the Government of Canada, under The Canada Water Assistance Act, may contribute on the basis of 37½ per cent of the cost of approved projects. The Province makes an equal grant for such projects, leaving the Authority with 25 per cent to be raised from its member municipalities.

For major schemes, the Authorities' levies are apportioned on the relative benefit to its member municipalities. For general costs, the Authority levy may be calculated on a per capita basis, on assessment, or on a combination of both.

## AUTHORITY PROGRAMS

### Water Control

Water control programs continue to be the major task of most Conservation Authorities. Over one-half of the Authorities in the Province were originally established because of flooding or other water supply problems. Approximately one-half of the total budget of all Authorities is expended on water control projects.

Almost all of the thirty-two Authorities carried out water control programs of some type. While good land use practices and the amount and condition of forest cover are important in water relationships on a watershed, in many instances flood control is only completely achieved by means of engineered structures. These structures, built by Authorities, have ranged from very large dams to small dams, channel improvement works and channel by-passes. The best example of a large dam completed and in operation is the Fanshawe Dam and reservoir on the Thames River north-east of London. Other large dams have been constructed on the Grand River by the Grand River Conservation Commission.

Some major water control projects are eligible for assistance from the Government of Canada under The Canada Water Conservation Assistance Act. Three Authorities currently have agreements with the Government of Canada for flood control and water conservation programs. Agreements were signed in 1961 by the Metropolitan Toronto & Region, Upper Thames, and Ausable Authorities. The total cost of projects being carried out under agreement by these three Authorities is about \$50,000,000. Cost sharing is 37½ per cent for the Government of Canada, 37½ per cent by the Province of Ontario, and 25 per cent by the Conservation Authority. Certain phases of the work under these agreements are shared on a 50-50 basis by the Authority and the Province.

The first dam under these agreements on which construction has gotten under way is the Claireville Dam and reservoir on the Humber River in the north-west sector of Metropolitan Toronto. This dam will be completed in

1964. A dam is also under construction under the Upper Thames Authority's agreement at St. Mary's (Wildwood).

In addition to large dams and reservoirs, a number of Authorities have undertaken projects involving the building of smaller dams. These dams have such purposes as irrigation water supply, municipal water supply and improvement of summer flow. Examples of such small dams include the Ausable Authority's Morrison Dam and reservoir near the town of Exeter, the Napanee Authority's Second Depot Lake Dam, Kelley Lake Dam constructed by the Junction Creek Conservation Authority, and the Kelso Dam recently completed by the Halton Region Conservation Authority.

Not all dams built by Authorities are new ones. A number of Authorities have acquired existing dams and surrounding land. At one time, most streams in Southern Ontario had numerous dams up and down their length. These dams had been built for the purpose of providing power for mills. They also had the incidental value of conserving water. Many of these old dams have long since disappeared or fallen into disrepair. Authorities have acquired control of a number of these dams and have carried out necessary repairs on them. They now fulfill a valuable function of storing water for the improvement of summer flow and for recreation. Examples of such dam restoration are the Belfountain Dam on the Credit River, repaired by the Credit Valley Conservation Authority, and the Thornbury Dam on the Beaver River, restored by the North Grey Region Conservation Authority.

In some valleys, a significant measure of flood control can be obtained through public ownership or public control of the flood plain lands. Such control prevents encroachment of buildings on to flood-vulnerable lands adjacent to the river. This control is necessary in conjunction with the building of dams and channel improvements. Four Authorities had flood plain land acquisition programs under way in 1963. Flood plain surveys and mapping, which is the necessary preliminary to land acquisition, were carried out in three Authorities.

## HYDROMETEOROLOGY AND FLOOD WARNING

Variations in weather conditions have a pronounced effect on the flow pattern of the streams and rivers in Southern Ontario. Problems concerning the relationship between meteorology and hydrology must be considered in detail before control works can be established on a stream. Hydrometeorology analyses are therefore an important part of the water studies carried out by the Conservation Authorities Branch.

An extensive network of precipitation and stream gauge stations has been established on the watersheds in Southern Ontario. Data from these stations are used to relate rainfall, snowmelt and soil moisture conditions to runoff. Such studies establish the characteristics of a stream under a variety of meteorological conditions. The results are used to determine the capacity of reservoirs, the size and type of dam structure or channel improvements and the availability of water for urban use, pollution control, recreation and irrigation.

The need for a flood warning system in Ontario was made clear following Hurricane Hazel in 1954. In 1955, the Meteorological Branch of the Canada Department of Transport seconded a hydrometeorologist to the Conservation Authorities Branch to head a flood warning system, particularly for the more heavily populated sections of the Province. He is responsible for maintaining a watch of river conditions, issuing flood forecasts, supervising the operation of flood control reservoirs and establishing meteorological design criteria for

river control structures. Ontario's flood warning system is at the present time unique in Canada.

A basic feature of the flood warning system is close co-operation between the Federal Government department which is responsible for weather forecasts and the Provincial Government department responsible for river control. The Meteorological Branch of the Canada Department of Transport is responsible for weather forecasting. It issues the necessary weather data, weather forecasts and warnings of severe weather conditions. The Conservation Authorities Branch applies this weather information to existing conditions in the watersheds and issues flood forecasts based on the correlation of these two types of information.

## WATER CONTROL PROJECTS

### 1963 EXPENDITURES

#### I — FEDERAL-PROVINCIAL-AUTHORITY AGREEMENTS

(a) Cost Sharing: Canada — 37½ %, Ontario — 37½ %  
Authority — 25 %.

Authority	Project	1963 Costs		Land	Misc.
		Engineering	Construction		
RESERVOIRS					
Ausable	Parkhill	27,044		826	123
Upper	Wildwood	69,165	549,525	8,592	8,563
Thames	Stratford	26,914	29,528	10	286
	Pittock	91,639		3,162	1,613
	Mitchell	9,323	121,305	449	2,214
Metro.	Claireville	62,313	484,576	660,570	9,259
Toronto	Ebenezer	9,973		194	88
& Region	Bolton			344,726	2,751
	Nashville			97	
	King Creek			20,916	20
	Don, East Br.			17,339	
	Boyd			34,754	304
	Finch			648,459	5,674
	Willowdale			88,406	774
		296,371	1,184,934	1,828,500	31,669

#### CHANNEL IMPROVEMENT

Upper	Cedar Creek	185			227
Thames	Woodstock	96		270	161
Metro.	Black Creek	64,191	462,336	234,222	6,818
Toronto	Woodbridge	44	77,501	145,757	1,808
& Region	York Mills	3,403		413	33
		67,919	539,837	380,662	9,047

#### WATERSHED STUDIES

Metro.					
Toronto					
& Region	Humber	33,243			

(b) Cost Sharing: Ontario — 50%, Authority — 50%

Authority	Project	1963 Costs Engineering Construction	Land	Misc.
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RESERVOIRS

Metro. Toronto & Region	Snelgrove Milne		102,764 120,828	
			<hr/> 223,592	

FLOOD PLAIN LANDS

Metro. Toronto & Region	Etobicoke Mimico Humber Don Highland Creek Rouge Duffin		10,071 696 560,202 50,244 60,453 565,800 317,604	
			<hr/> 1,565,070	

ENGINEERING STUDIES

Metro. Toronto & Region	Duffin Creek	1,130		
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II — STANDARD WATER CONTROL PROJECTS

Authority	Project	1963 Cost	Ontario Grant
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SMALL DAMS — NEW CONSTRUCTION

Big Creek	Lehman	13,826	50%
	Vittoria	2,173	50%
Napanee	Second Depot Lake	333	50%
		<hr/> 16,332	

SMALL DAMS — REPAIRS AND IMPROVEMENTS

Crowe	Allen's Mill	244	50%
	Marmora	1,328	50%
Grand	Breslau	1,195	50%
Sauble	Rankin	1,756	50%
	Berford	670	50%
		<hr/> 5,193	

CHANNEL IMPROVEMENTS

Grand	Galt	17,685	50%
Lower Thames	Thames	748	50%
Upper Thames	Thames	4,254	50%
		<hr/> 22,687	



Authority	Project	1963 Cost	Ontario Grant
FLOOD PLAINS AND RESERVOIR LANDS PURCHASED			
Grand	Nith	3,120	50%
Metro.	Highland Creek	15,936	50%
Toronto	Humber	15,829	50%
& Region	Don	21,422	50%
	Black Creek	55,617	50%
Sixteen Mile	Trafalgar	13,360	50%
	Oakville	3,118	50%
		128,402	

#### STREAM GAUGES

Big Creek	Big Creek	335	50%
Grand	Whiteman's	214	50%
	Eramosa	742	50%
Moira	Skootamatta	1,215	50%
Otter	Vienna	428	50%
Spencer	Dundas	93	50%
		3,027	

#### ENGINEERING STUDIES

Big Creek	Norwich	428	75%
Grand	Nith	1,380	75%
	Courtage Mill	2,249	75%
	Main Valleys	10,000	75%
Junction	Cresote	146	75%
	Nolin Creek	244	75%
	Junction Creek	3,998	75%
Metro.	Telemetering	9,349	75%
Toronto	Duffin	1,900	75%
& Region	Highland	750	75%
	Massey	5,960	75%
	Humber, Don	2,500	75%
Moira	Moira Lake	975	75%
Otonabee	Dummer Lake	820	75%
	Jackson's Creek	57	75%
Twelve Mile	Rattlesnake Point	1,279	75%
		42,035	

### Land Use and Soil Conservation

All Authorities consider the condition of the land of the watershed as a necessary part of a watershed resource management program. The use and management of the soil are, however, primarily the concern and the responsibility of the individual landowner.

The Department of Agriculture is charged with government assistance to landowners. Conservation Authorities work in close co-operation with the Department of Agriculture, the agricultural colleges and schools, and the various agricultural and farm organizations. The local agricultural representatives are usually members of the Land Use Advisory Boards of the Authorities.

Authorities have emphasized the need for good soil management as a part of their watershed program. Authority personnel have worked closely with those from Agriculture in giving technical assistance to overcome soil conservation problems. Authorities have led in programs to encourage the building of farm

ponds and in land judging competitions. They have co-operated in the establishment of land use demonstrations on both Authority-owned and private property. They have further encouraged good soil practices by giving limited financial assistance towards the building of ponds, grassed waterways and farm dwellings.

## FARM PONDS

Over half of the Authorities have given financial and technical assistance towards the design and construction of farm ponds, financial assistance being in the form of grants varying with the policy of the different Authorities and ranging from \$50 to \$500 per pond.

In 1963 Authorities paid grants on 175 ponds, bringing the total number of ponds built under assistance programs of all Authorities to over 3,000.

## GRASSED WATERWAYS

Two Conservation Authorities extend financial assistance in the form of subsidies to landowners to build approved grassed waterways on their land. The maximum amount payable is \$200 per farm.

## DEMONSTRATIONS

An effective tool to arouse interest in improved farm practices is demonstration. The Conservation Authorities carry out land use demonstrations in several ways. One method is to purchase land and establish demonstrations on it. The Grand Valley Conservation Authority has two properties on which it is carrying out gully control, reforestation and pasture improvement work.

Twelve Conservation Authorities have established demonstrations on land which they had acquired for various conservation purposes. They are carrying out pasture management, reforestation, streambank erosion control, and contouring and strip-cropping on these Authority-owned properties.

## FARM DRAINAGE

One Conservation Authority, the Metropolitan Toronto and Region, gives financial assistance towards the drainage of farms. When the drainage work is completed to the satisfaction of the Department of Agriculture, the Authority pays a subsidy of two cents per tile.

The Ausable River Conservation Authority has an assistance policy through which it gives financial and technical assistance towards the building of proper outlets for farm tile drainage systems.

## LAND JUDGING COMPETITIONS

Becoming increasingly popular is the land judging competition. Many of them are sponsored jointly by Conservation Authorities and the local office of the Department of Agriculture. In 1963 seven Conservation Authorities assisted in sponsoring ten land judging competitions.

## Forest Conservation

Forestry plays an important role in any conservation program. Forests are the natural cover for headwater areas, swamps and moraines out of which arise many small tributary streams. Forests are often the only crop which can be grown on rough, rocky soils or erodible sands. The amount and condition of forest cover are directly related to surface and underground water storage, wildlife management and recreation.

Most conservation reports to the Authorities recommend the establishment of an Authority Forest. These Authority Forests may, and do, consist of existing woodlands as well as areas of marginal and submarginal agricultural land that must be reforested. To date, conservation reports have recommended the acquisition of approximately one million acres of land by Authorities.

In 1963, 7,703 acres were added to the Authority Forests, bringing the total acreage to 66,125.

The Ganaraska River Conservation Authority, which is one of the oldest in Ontario, has during the past 17 years purchased over 40 per cent of the area recommended in its conservation report.

### AUTHORITY FORESTS UNDER AGREEMENT

Conservation Authority	Acreage Purchased in 1963	Total Acreage December 1963
Ausable .....	280	4,346
Big Creek .....	275	2,438
Catfish .....	75	208
Central Lake Ontario .....	245	245
Crowe .....	200	200
Ganaraska .....	100	8,165
Grand .....	414	5,133
Lakehead .....	160	1,825
Maitland .....	483	949
Metropolitan Toronto & Region .....	206	1,673
Moira .....	494	11,785
Napanee .....	1,902	6,965
Niagara .....	186	186
North Grey .....	722	4,616
Otonabee .....	800	800
Otter .....	146	1,180
Sauble .....	340	1,920
Saugeen .....	560	9,955
South Nation .....	81	268
Spencer .....	—	12
Upper Thames .....	34	3,259
	7,703	66,125

### REFORESTATION ASSISTANCE TO LANDOWNERS

Authorities recognize that private enterprise can and should have an important role in reforestation and land management. Eighteen Authorities give some form of assistance to private landowners towards reforestation. This assistance may include direct subsidization of planting or the provision of planting machinery and planting crews. Well over one million trees were planted under private assistance programs in 1963.

Trees for reforestation purposes under the private assistance programs are obtained by the landowner from the 11 nurseries operated by the Department. Certain types of planting material, primarily shrubs and trees for wildlife and erosion control, are produced in Authority nurseries. The Upper Thames and

the Metropolitan Toronto and Region Conservation Authorities and the Grand River Conservation Commission have nurseries of their own.

## Wildlife Conservation

Authorities have long been concerned with the place of wildlife resources in their watershed programs. Many of the Conservation Authorities have set up Fish and Wildlife Advisory Boards. The wide scope of Conservation Authority programs provides opportunities for fish and wildlife management projects. Several Authorities have acquired extensive areas of flood plain lands. Such acquisitions make stretches of stream available for public use. These purchases have included habitat both for warm-water fish and for trout. In some areas arrangements have been made with the Department of Lands and Forests for stocking of streams.

Authorities are now including plans for fish and wildlife development as part of their engineering for flood control structures. The excellent waterfowl hunting at the Luther Reservoir is a by-product of the flood control program of the Grand River Conservation Commission.

Conservation Authorities have discovered that nature trails established in their conservation areas are a fine means of educating the public on the natural things to be found in these areas. Representative species of plants and trees are marked along the trails. Several Authorities provide regular hikes with experienced guides at weekends. These hikes are most popular. Interpretive nature displays have been built in several areas by three Authorities.

The Metropolitan Toronto and Region Conservation Authority has undertaken an extensive program in the field of research into the control of aquatic weeds and algae in farm ponds. It has also undertaken experimental planting of plots of various species of plants and shrubs which have value as wildlife habitat.

Several Authorities have established fish and wildlife conservation areas. These areas are on Authority-owned conservation land and have been developed for low-intensity recreation in the form of fishing and nature study. Few facilities other than some picnic tables are provided. These lands generally include streams or ponds which can be developed for fishing and most areas have some forest cover.

The Palgrave Fish and Wildlife Conservation Area in the Humber watershed is an example of such land, as is the Peasmarsh Area on the shores of Georgian Bay in the North Grey Region Authority. Areas for similar uses are planned for the Grand and Upper Thames watersheds.

## Recreation

Lands acquired by Authorities for conservation purposes, parts of which are used for recreation, are known as conservation areas. These areas are usually developed in conjunction with other uses of the land — for reservoirs, water control or forestry. Recreational development includes such facilities as picnic tables and shelters, fireplaces, swimming areas and boats, as well as provision for camping, boating, fishing, winter sports and nature study.

The development of recreational areas on conservation lands has been an important development in many Authorities. The fact that there has been such spectacular growth of conservation areas indicates not only the need for such facilities but the fact that these facilities can be developed as an adjunct to other conservation practices. Nevertheless, the development of recreational facilities is ancillary to other conservation uses and absorbs less than one-fifth of Authority budgets.



The three Authorities which have agreements with the Federal and Provincial Governments for water control projects are planning extensive recreational facilities around some of the reservoirs. The acquisition and development of conservation areas usually receives a grant of 50 per cent from the Province. Maintenance costs, however, are borne entirely by the Authority. To meet these costs, most Authorities charge an admission fee to the conservation areas. Authorities are free to set such admission charges as they see fit — a common charge is 50 cents per car.

A total of 38,370 acres of conservation lands have been acquired by Authorities, of which 22,670 acres are for water control purposes and the remaining 15,600 acres for other conservation uses. Of this 15,600 acres, 9,260 have been developed for recreation in the form of 71 different areas. An admission charge is made for entry to 20 of these areas totalling 7,000 acres.

### CONSERVATION AREAS ATTENDANCE

Conservation Authority	1961	1962	1963
Ausable .....	*	*	15,000
Big Creek .....	125,000	80,000	155,000
Credit .....	88,000	96,000	90,000
Ganaraska .....	*	*	11,000
Grand .....	185,000	231,000	208,000
Holland .....	*	*	8,000
Maitland .....	*	*	5,000
Metropolitan Toronto & Region .....	850,000	898,000	1,008,000
Moira .....	*	22,000	29,000
Niagara .....	58,000	70,000	70,000
Otonabee .....	*	*	10,000
Saugeen .....	*	*	27,000
Sixteen Mile .....	*	22,000	25,000
Twelve Mile .....	*	*	10,000
Upper Thames .....	103,000	160,000	105,000
Others (estimated) .....	262,000	225,000	15,000
Totals .....	1,671,000	1,804,000	1,791,000

\* Listed in "Others"

### CONSERVATION LANDS EXPENDITURES 1963-4

Conservation Authority	Area	Land Acquisition \$	Development \$
Ausable	Exeter .....	6,694	
	Sundry Areas .....		3,968
Big Creek	Backus .....		553
	Black Creek .....		1,081
	Waterford .....		1,837
Ganaraska	Dean's Hill .....		531
	Garden Hill .....		79
Grand	Byng .....		6,191
	Doon .....		2,732
	Elora .....		11,381
	Kitchener-Waterloo .....	57,817	
	Nith .....		1,202
	Pinehurst .....		6,350
	Rockwood .....		23,892
Holland	Bradford .....	26,450	739
	Fairey Lake .....		18,479
Junction	Lake Laurentian .....	717	
	New Sudbury .....	814	
Lower Thames	Mt. Brydges .....	11,142	

Conservation Authority	Area	Land Acquisition \$	Development \$
Metropolitan Toronto & Region	Albion Hills .....	6,139	91,662
	Black Creek .....	153,245	36,407
	Boyd .....	5,094	58,555
	Bruce's Mills .....		36,056
	Claremont .....		68,993
	Cold Creek .....		19,605
	Glen Haffey .....		24,713
	Glen Major .....	90,844	330
	Greenwood .....		11,943
	Heart Lake .....		38,835
	Humber Trails .....		7,274
	Palgrave .....		12,355
	Uxbridge .....		339
	Woodbrige .....		24,511
Moir	O'Hara Mill .....		1,350
	Price .....		1,139
	Vanderwater .....		4,460
Napane	Napane .....		209
	Second Depot Lake .....		895
Niagara	Ball's Falls .....	5,609	23,540
	Long Beach .....		6,484
	St. John's .....	7,057	4,061
North Grey	Ainslie Wood .....	25,230	2,459
	Beaver Valley .....	2,175	
	Inglis Falls .....	4,519	
Nottawasaga Otonabee	Meaford .....		3,003
	Edenvale .....		1,126
	Chemung Lake .....		418
Sauble	Warsaw Caves .....	3,452	6,812
	Indian Falls .....	3,244	
	Tara .....	2,000	
Sixteen Mile	Escarpment .....		224
	Kelso .....	14,312	51,161
Spencer	Valens .....	43,617	1,603
Sydenham	Shetland .....		4,640
Twelve Mile	Carlisle .....		5,300
	Mountsberg .....	38,097	5,442
	Rattlesnake Point .....		6,590
Upper Thames	Cameron Wilson (Fanshawe) .....		14,578
		508,268	656,087

## Public Relations

Every Authority has the problem of informing the public as to why the Authority was formed, what its objectives are, and how it proposes to meet these objectives. The Authority must show people why tax dollars from watershed residents are required for conservation expenditures. They must point out the nature of conservation problems and the need for co-operation among a number of governing bodies in organizing a program. Public Relations becomes an important task of every Authority.

Authorities use all means of publicity and education that are available to them. These include such standard media as radio, television and the press, exhibits, demonstrations, field days, publications and brochures. Authority personnel give frequent talks to public groups. Authorities work closely with local education people in organizing conservation projects in the schools, tree planting days, field trips and so forth. They work with youth organizations such as Scouts and Guides, 4-H clubs and Resource Rangers.

A notable development in the field of education in conservation has been the establishment of the Albion Hills Conservation School by the Metropolitan

Toronto and Region Conservation Authority. This school will accommodate a class of students for a week with complete facilities for the students to live in. During this week, students participate in lectures, take field trips and carry out experiments in a wide variety of nature science subjects. The curriculum of the school has been drawn up primarily for students in grades 9 and 10 but students are accepted from other grades at both the primary and secondary level. While classes from schools located within the Metropolitan Authority watersheds are given priority, classes from elsewhere in the province will be accepted on occasion.

Several Authorities have produced films of their watersheds and their conservation projects. Notable among these films are those produced by the Metropolitan Toronto and Region Conservation Authority such as *A TOWN AND ITS RIVER*, *LEGACY OF THE VALLEY* and *PIONEER VILLAGE AT BLACK CREEK*.

## History

An important part of most conservation reports to the Authorities has been the section dealing with the historical background of the resource uses. The history sections of these reports have been widely read and have resulted in an increase of interest in local history on the part of watershed residents. During the course of acquisition of lands for conservation purposes, a number of Authorities have obtained historical sites and buildings. In order to preserve them, several Authorities have developed historical villages or have restored old mills and other buildings and have made them accessible to the public.

Examples of old mills acquired and restored by Authorities include the mill in the O'Hara Conservation Area near Madoc and the old grist mill in the Backus Conservation Area in Norfolk County. The O'Hara Mill, originally built in 1846-47, is a sawmill which is unique in Ontario. It is now the property of the Moira River Conservation Authority. The Big Creek Region Conservation Authority has restored the Backus Mill.

Three Authorities have undertaken development of pioneer villages. The largest and most ambitious of these is Pioneer Village in the Black Creek Conservation Area in north-west Toronto, developed by the Metropolitan Toronto and Region Conservation Authority. This project is being developed as a typical pre-Confederation crossroads agricultural community.

The pioneer village in Fanshawe Park near London is a project of the Upper Thames River Conservation Authority. This represents a village of the 1830's and its buildings are typical of south-western Ontario at that time. The Grand Valley Conservation Authority provided the site for the Doon Pioneer Village at the Doon Conservation Area. The actual development of the village itself has been financed by and is under the direction of the Ontario Pioneer Community Foundation of Waterloo County.

In 1963 nearly 170,000 people, of which a large number were children, visited these historical sites. Historic sites and pioneer villages are financed entirely by the Authorities from their municipal revenues and other sources. The Metropolitan Toronto and Region Authority has established the Metropolitan Toronto and Region Conservation Foundation which accepts donations from private sources for financing such projects as its Pioneer Village.

## THE GRAND RIVER CONSERVATION COMMISSION

The Grand River Conservation Commission was established in 1938 under The Grand River Conservation Act. The Commission is composed of twelve members representing eight urban municipalities. These municipalities are the Cities of Brantford, Galt, Kitchener and Waterloo, the Towns of Paris, Preston and Fergus, and the Village of Elora.

The Grand River Conservation Act was passed eight years prior to the passing of The Conservation Authorities Act. It charges the Commission with the responsibility of dealing with water problems on the Grand River. The Act empowers the Commission to erect works and create reservoirs by the construction of dams.

Three major projects have been carried out by the Commission. The first of these was the Shand Dam and reservoir near Fergus, completed in 1942. The Luther Marsh Dam and reservoir in the headquarters of the Grand River was completed in 1953. The Conestogo Dam is the most recent project and was completed in 1957.

These projects were primarily for flood control on the Grand River. They cost just over \$7,000,000 and all were financed jointly by the Government of Canada, the Province of Ontario and the benefiting municipalities in the ratio of 37½, 37½ and 25 per cent.

## THE PARKS ASSISTANCE ACT

The Parks Assistance Act was passed in 1960. This Act provides for the payment of grants to municipalities of 50-per-cent of the cost, up to a maximum grant of \$50,000, on acquisition, planning and development of municipal parks as public recreation areas complementary to Provincial Parks.

In 1962 an amendment to the Act permitted Indian Bands to participate in the benefits available under the Act. This has provided for them, as well as urban and rural municipalities throughout the Province, much-needed assistance in acquiring and developing land suitable for picnic and camping purposes.

The main requirements to qualify for a grant under this Act are that the parks provide sites for overnight tent and trailer camping, and a safe supply of drinking water as well as picnic and sanitary facilities. Other developments in these parks which are eligible for grant include construction of roads and picnic shelters, facilities for water and winter sports, and for cooking and laundry.

Up to March 31, 1964, 280 inquiries for information on The Parks Assistance Act had been received and 35 parks approved for grants, bringing a total of some 2,153 acres under development.

Grants in excess of \$625,000 have been authorized to date and further assistance has been provided under the Federal-Provincial Winter Works Program.





Kakabeka Falls, near Fort William.



# PARKS DEVELOPED UNDER THE PARKS ASSISTANCE ACT

Municipality	Name of Park	Acreage
Bath	Cedar Nook	7
Bexley Township	Coboconk	7
Blind River	Huron Beach	36
Bobcaygeon	Bobcaygeon Beach	4
Cape Croker Indian Band	Cape Croker Indian	411
Cochrane	Drury	75
Elliot Lake	Westview	20
Fort William	Chippewa	326
Goderich	Harbour	30
Haldimand	Haldimand County	90
Huntsville	Huntsville Memorial	25
Innisfil	Innisfil Township	85
Kenora	Anicinabe	100
Leamington	Seacliff	17
Listowel	Listowel Memorial	35
L'Orignal	L'Orignal	18
Orillia Town	James B. Tudhope Memorial	25
Orillia Township	Washago	33
Owen Sound	Kelso Beach	19
Pembroke	Riverside	22
Peterborough	Beavermead	51
Port Arthur	Trowbridge Falls Tent and Trailer Camp	104
Portland Township	Portland	10
Port Perry	Daniel Palmer Memorial	7
Sarnia	Huron View	96
Sault Ste. Marie	Point Des Chenes	75
Shuniah	Wild Goose	17
Southampton	Huron Street	5
Sudbury	Moonlight Beach	389
Sundridge	Village of Sundridge	2
Sutton	Jackson's Point	9
Terrace Bay	Seaborne	59
Thessalon	Lakeside	22
Wiarton	Bluewater Beach	8
Wingham	Riverside	26



When moose are swimming, they can be easily ear-tagged from a helicopter.



Thousands of fingerlings, raised in provincial hatcheries, are used in lake restocking programs.

## FISH AND WILDLIFE BRANCH

**D**URING the year under review Dr. H. H. MacKay, Supervisor of the Fisheries Section, retired. This makes the year a milestone in the history of the Department, and of fisheries management in Ontario. There were biologists before — one might even so designate Dr. McCallum, who became Game Commissioner after the report of 1892, which he had a large hand in shaping, was put into effect, or C. M. Nash, of the Provincial Normal School Museum, whose fisheries studies featured early Departmental reports. The Province also contributed in one way or another to fisheries research, over a long period. Neither McCallum nor Nash nor any other was ever an employee in the ordinary sense, nor, until Dr. MacKay was employed in 1926 was there any provision for transforming fisheries research into fisheries management. He was the first, and for many years had the chief responsibility for bringing scientific standards into Departmental fisheries procedures.

To a large degree, at first, Dr. MacKay was concerned with fish culture and restocking. This is one of the most important and expensive of our activities, and can be either productive or wasteful, depending on the degree to which scientifically determined facts are used to guide action. When it was first discovered that fish could be artificially reared, the public imagination envisioned something akin to the planting of trees or of crops, and fish culture was hailed as a cure for all fisheries problems. This is all very well, except that we do not plant trees or crops where there is already a well-established growth, and we take some account of land capability. Because the aquatic environment has depth, and one cannot see what is happening in it, people quite cheerfully did the equivalent of planting trees on bare rock, or sowing the fall wheat to corn in the springtime.

Actually, fishes are very demanding in their requirements. The physical and chemical nature of the water, the nutrients, the fishes already there, are of immense importance, and failure and waste were the penalty for ignorance, a penalty which we were even ignorant of paying.

Once we can get ourselves away from stupidly putting fish into waters where the natural production is more than adequate, and then fatuously attributing to stocking an abundance of fish which is actually no more than the result of a year of good survival from natural production, we can make our hatchery production really work for our benefit. The units are now mostly modernized. We can maintain good fishing in suitable lakes where natural production is deficient, even if it should happen to be a lake the size of Superior. We can, as we have shown already, produce useful hybrids, and work elsewhere has proved that hatchery strains can be selected and bred for a large variety of desirable qualities. In the future, we expect to find ourselves balancing such things as growth rate and catchability in choosing our stock for a certain water. By that time we shall also be leaving to nature the jobs that she does better than we can do.

## FISH AND WILDLIFE BRANCH

*Chief:* C. H. D. CLARKE

### WILDLIFE SECTION

*Supervisor:* D. N. OMAND

Game Management

Fur Management

Field Services

Indian Affairs Agreement

### FISHERIES SECTION

*Supervisor:* J. K. REYNOLDS

Game Fish and Hatcheries

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### SPECIAL STAFF

Chief's Clerical Staff

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# WILDLIFE SECTION

## GAME MANAGEMENT 1963

It is estimated that nearly one-half-million residents of Ontario took advantage of the excellent hunting opportunities this Province had to offer in 1963. In addition, approximately 50,000 non-resident hunters visited Ontario. Most of the latter category came in search of big game. Total hunting licence sales for 1963 are contained in Table I.

Table 1

Resident Moose .....	43,144
Resident Deer .....	101,590
Camp .....	262
Dog .....	12,050
Farmers Deer .....	12,658
Regulated Hunting Camp (Lindsay) .....	82
Resident Bear .....	354
Resident Gun .....	376,800
Groundhog .....	39,219
Non-Resident Moose .....	7,261
Non-Resident Deer .....	6,351
Non-Resident Small Game .....	7,685
Non-Resident Spring Bear .....	1,999
Non-Resident Wolf .....	39
Non-Resident Pheasant Preserve .....	300

With an ever increasing number of sportsmen afield the proper management of game resources becomes essential. Gone are the days when stocking, predator control and regulations based on opinion rather than facts, were the only tools of game management. In 1963 a large field staff of 199 conservation officers and 34 biologists obtained detailed information needed for sound game management, and enforced regulations made under The Game and Fish Act. The task is a difficult one since activities are spread over much of the Province's 412,000 square miles; this is an area larger than that of the 14 eastern states bordering the Atlantic from Maine to Florida. Collecting essential information required for proper management covers a broad spectrum of activity. Inventories, collection of harvest information and evaluation of habitat are three of the most important. A great deal of information is needed if sound regulations are to be made and programs designed to provide hunting of good quality.

For example, in 1963, district staff inventoried moose populations by flying over 150 sample plots which exceeded 4,000 square miles in total area. Over 39,000 deer hunters were interviewed concerning their hunt last year; this was almost one third of all licenced deer hunters in the Province. Harvest information was also requested from over 36-per-cent of the Province's 47,000 licenced moose hunters in 1963. Thousands more small game hunters contributed valuable harvest information to Department officers. These were only a few of the many activities of Lands and Forests staff in the field of game management. The following resumé, although far from complete, outlines the status of many of Ontario's game species in 1963 and the Department activities directed towards their management.

## BIG GAME

Reasonably good to excellent deer hunting has been enjoyed in southeastern and northwestern Ontario for many years. In the western portion of the Province the present stage of forest growth favours deer and very high deer populations are present, particularly in Kenora, Fort Frances and southern Sioux Lookout

Districts. Deer management problems in this area relate mainly to under-harvest. In recent years winters have been moderate, with little snow; it is feared that mortality in the western deer herd will be heavy if severe winter weather occurs.

Across the eastern deer range, south and east of Sault St. Marie, Sudbury and Timiskaming, deer are slowly recovering from the heavy losses incurred during the winters of 1958-59 and 1959-60. Although the main eastern range south of the French and Mattawa rivers does not support as many deer as in years past, reasonably good hunting is still available to a greatly increased number of hunters.

## The 1963 Deer Hunt in Ontario

The white-tailed deer continues to be one of the most popular game species sought by hunters in Ontario. In 1963, 114,248 resident and 6,351 non-resident deer licences were sold, and an estimated 29,400 deer were harvested.

Although most of the Province's deer habitat is situated on the northernmost fringe of the continent's deer range, success rates have been reasonably good. Only along the very northern margin of Ontario's deer range have success rates declined significantly in recent years. In the late 1950's and early 1960's, severe winters caused heavy mortality in Sault Ste. Marie, Sudbury, North Bay and Parry Sound Districts and recovery of the herd in some of these areas has been slow. During an average year about one in four hunters in Ontario is successful in bagging a deer but the annual kill varies depending upon success rates and the number of licences sold. Table 2 shows average Provincial deer hunter success rates since 1955. Only broad trends are indicated since figures for all years are not exactly comparable due to improved methods of data collection. The decline in success rates in the early 1960's, caused by the mortality occurring during the disastrous winters of 1958-59 and 1959-60, is clearly shown in Table 2.

DEER HUNTER SUCCESS — ONTARIO 1955-1963

Table 2

Year	1955	1956	1957	1958	1959	1960	1961	1962	1963
% Success	26.4	28.4	29.5	28.4	20.9	20.6	23.3	25.1	23.8
Hunters Checked	21770	16361	17956	20584	32111	31527	31244	41470	39142
Deer Checked	5748	4797	5309	5860	6726	6496	7296	10443	9351

In the Western Region, Kenora, Fort Frances, Sioux Lookout and Port Arthur Districts all offer good to excellent deer hunting. For the past few years winters have been mild and very high deer populations prevail.

In the Central Region, along the northernmost fringe of the main eastern deer range, from Sault Ste. Marie through Sudbury and North Bay, success rates were still low although somewhat improved in 1963. Manitoulin Island, unlike the less fertile mainland, had a banner season with a success rate of 28.8-per-cent.

Across most of the main eastern deer range, south of the French and Mattawa Rivers, the weather which prevailed throughout the 1963 season long will be remembered. Rain fell every day of the two-week deer season in some areas and many oldtimers could not remember worse hunting weather. Success rates fell across most of southern Ontario and the decline is particularly pronounced when success is compared to the previous year. In 1962, snow cover during the open season was the principal contributing factor to a very successful hunt. For many hunters in the eastern part of the Province, the 1963 deer

season was a disappointing one. Weather was largely responsible and prospects for a much better season in 1964 are excellent. Success rates by Forest District are shown in Table 3 below.

Table 3

District	Total Hunters Checked	% Hunter Success	Days/Hunter /Deer
Lindsay .....	4067	19.9	22.1
Tweed .....	4415	18.1	24.3
Kemptville .....	1766	26.7	17.7
Pembroke* .....	1484	11.9	37.1
Parry Sound .....	8010	18.3	25.6
North Bay .....	1170	11.4	43.9
Sudbury .....	908	12.4	38.5
Manitoulin Island .....	2402	28.8	13.6
Sault Ste. Marie* .....	352	16.5	26.5
Lake Huron .....	838	9.2	14.4
Bruce Peninsula .....	1992	11.7	31.1
Lake Simcoe .....	437	19.2	13.2
Kenora* .....	4540	47.4	15.4
Fort Frances* .....	1486	46.6	14.4
Sioux Lookout* .....	965	41.5	19.6
Port Arthur* .....	4310	23.1	21.0

\* These districts obtained data from mailed hunter questionnaires and this information cannot be compared on exactly the same basis with the other districts which obtained information from checking stations and from checking hunters in the field.

HABITAT IMPROVEMENT

Food and cover in winter deer yards are the major factors limiting deer numbers across the main eastern range. The excellent food supplies which followed the heavy pine logging of the 1850 to 1910 period is maturing, and conditions are becoming less favourable for deer. Selective conifer logging also has destroyed winter shelter values in some areas.

For the past two years a major new program designed to improve winter habitat for deer has been underway. This program is a co-operative one between the Timber and Fish and Wildlife Branches. Aerial mapping of winter deer yards and subsequent ground surveys are the initial steps in determining specific areas to be improved. Most of the work entails the removal of mature growth to encourage production of deer browse, and in some instances additional coniferous tree shelter. In 1963 the following gross acreages of yarding areas were treated.

DEER HABITAT IMPROVEMENT 1963 FISCAL YEAR

Table 4

District	No. Projects	No. Acres Treated	Programme
Parry Sound .....	5	175	Patch and strip cutting, girdling, to encourage deer browse production. Hemlock shelter areas were marked to be left uncut on an additional 1500 acres.
Lindsay .....	1	160	Girdling and slashing hardwoods to promote browse production.
Pembroke .....	3	67	Clear cutting, slashing, spraying to encourage browse production.
Sault Ste. Marie .....	2	178	Strip and patch cutting to produce browse.
Sudbury .....	2	35	Patch cutting to improve food and shelter.
Tweed .....	2	50	Thinning, lopping and burning slash to encourage browse production.
TOTAL .....	15	665 acres	



Deer range improvements have been financed through Forest Stand Improvement Funds of the Timber Branch. Results of the first two years operation are most encouraging. Deer have used the new browse which has been produced subsequent to cutting. In addition staff of both co-operating Branches have gained an insight into the other's work and problems. Many foresters have shown great interest in this type of work and are now in a better position to recommend specific forest treatments in areas important to deer. In many instances commercial timber operators have been persuaded to modify their operations to benefit deer. For instance, hemlock stands which are exceptionally valuable as winter cover have been spared where they occurred within known deer yards.

The ultimate goal is to place all important winter deer habitat under proper timber management. Only then will the Department be able to influence the number of deer available to hunters, which is a necessity if hunting of reasonable quality is to be maintained.

## DEER TAGGING

To learn more concerning the annual movements of deer to and from winter yards, 250 automatic tagging devices were made up in the Sault Ste. Marie District. These were used in several districts across the eastern deer range. The tagging devices, or "collars", made of brightly coloured polyethelene rope with attached numbered tag, are designed so that deer "walk through" them while travelling on narrow trails in winter yards. The collars snap around the deer's neck and serve as a permanent marker to provide information on deer movements. Since snowfall was light during the winter deer were not restricted to trails, consequently a large number of deer was not marked. District staff did gain considerable experience in the techniques of using automatic tagging devices.

## OTHER ACTIVITIES

Field staff in many districts where deer are important conducted surveys to establish the effect of deer on the range and to determine deer densities in some areas.

Field staff also co-operated with the Ontario Veterinary College and Ontario Research Foundation in their studies of disease and parasites of deer. Information was also collected from the many deer killed accidentally, most of them by automobiles on busy southern Ontario highways.

## MOOSE MANAGEMENT

Ontario has a large moose population estimated at about 125,000 animals. In 1963 post season hunter surveys indicate that the kill may have exceeded 14,000 animals, the highest on record. Hunters in 1963 continued to enjoy good moose hunting; the resident and non-resident success rate was 26.5 and 52.9% respectively. Average success was 30.5% for the 46,951 hunters who participated in the hunt.

During the past few years Ontario has supported the largest moose herd in the history of the Province. During the past 15 years or so, remarkable changes in the numbers of moose have occurred. Moose have extended their range both to the north and south; this spread, coupled with the very rapid increases in numbers of moose, has produced excellent hunting opportunities.



Southern Ontario, where deer-moose hunting pressure is high is an exception, and moose have declined in this area during the past two years. Across northern Ontario, however, moose are abundant, and still appear to be increasing in some areas. Even with an almost tenfold increase in hunters since 1951, hunter success has remained high.

### RESIDENT MOOSE HUNTERS 1960-63

Table 5

District	1960		1961		1962		1963	
	Kill	% Success	Kill	% Success	Kill	% Success	Kill	% Success
Sioux Lookout .....	492	39.4	813	56.1	544	43.1	563	41.6
Kenora .....	572	47.5	828	46.7	562	51.1	556	43.3
Fort Frances .....	159	27.6	256	39.0	344	44.1	268	37.8
Port Arthur .....	871	29.4	796	23.9	1246	33.1	1504	39.0
Geraldton .....	998	32.3	1063	34.9	1067	38.0	1007	33.9
Kapuskasing .....	863	31.4	892	28.0	911	25.3	1127	27.8
Cochrane .....	601	22.4	471	15.8	708	20.5	845	25.5
Swastika .....	470	19.7	533	18.2	616	15.6	845	20.8
Gogama .....	351	23.2	509	22.0	365	19.1	375	23.7
Chapleau .....	318	25.4	452	21.7	226	18.3	450	23.9
White River .....	362	33.0	377	19.9	375	20.0	470	23.8
Sault Ste. Marie .....	475	17.2	670	21.7	540	19.9	660	23.7
Sudbury .....	473	15.4	617	19.3	562	17.6	522	16.2
North Bay .....	426	21.1	439	17.3	279	15.3	341	15.2
Parry Sound .....	400	44.5	471	26.4	437	26.4	272	19.5
Lindsay .....	146	45.5	211	30.5	130	24.8	79	17.4
Tweed .....	52	44.8	61	24.0	33	38.4	10	7.6
Pembroke .....	95	66.0	116	31.2	172	38.4	100	25.7
TOTAL .....	8124	26.9	9575	25.6	9130	25.1	9994	26.5

Lack of access remains the most crucial problem in the proper management of moose in Ontario. Several times the present harvest could be safely taken on an annual basis if all the range was accessible to the hunter.

Since severe declines in big game herds often occur when the range becomes overstocked, game management workers are using a variety of management techniques to keep informed of any changes in the welfare of Ontario's moose herd.

It is in the large inaccessible areas that the trouble is likely to arise. Where big game animals are allowed to increase beyond the ability of the range to support them on an adequate "standard of living", declines in abundance inevitably follow. Malnutrition usually results in lower reproductive rates and an increase in susceptibility to diseases, parasites and predators. These factors may all contribute to a decline in big game populations. In nature nothing is as constant as change. This is a disquieting thought, since the moose population is unlikely to maintain itself at its present high level indefinitely. The problem of providing access to remote, heavily populated moose range is a difficult one. For the past two years, searching for moose by aircraft has been permitted in large unhunted areas in western Ontario. As in 1961 and 1962, certain large inaccessible areas were set aside by the Department, permits were issued which allowed searching for moose from aircraft. In all, 233 permits were used and exactly 200 moose were taken in Kenora, Sioux Lookout and Port Arthur Districts. Not only did this reduce hunting pressure over the accessible range, but additional moose were harvested. These animals would not likely have been reached by more conventional means of travel.

Several pulp and paper companies have co-operated in opening their forest access roads to moose hunters. Fortunately, new highways are under construc-

tion. All this helps, but thousands of square miles in northern Ontario still remain out of reach to the average hunter.

A close watch is being kept on Ontario's moose herd. In almost every northern forest district field personnel are assessing the effect of high moose populations on the supply of woody browse which constitutes their winter food.

Other studies are designed to determine the various types of parasites and diseases and their normal occurrence in Ontario's moose herds. At present, moose appear to be in good condition and in an effort to keep them that way long liberal seasons have been provided for in northern Ontario, and moose of any age and sex are legal game. The access problem is very difficult to overcome, however, and inaccessible areas will not be able to support large numbers of moose indefinitely.

### The 1963 Moose Hunt

The 1963 moose hunt was one of the most successful on record. Licence sales continue to climb and 40,161 residents and 6,770 non-residents purchased licences in 1963.

A large sample of hunters again provided information on their hunt. A systematic sample of names was chosen from licence book covers and postcards requesting moose harvest data were mailed to hunters following the season. Questionnaires were forwarded to 34.8 per cent of all licensees, and of these 89.5-per-cent were returned. Additional information on the hunt was obtained through road checking stations and by field contacts of hunters. Table 6 shows the results of the mail surveys by forest district.

Table 6

Forest District	RESIDENT			NON-RESIDENT		
	Calc. Licences used in District	Calc. Kill of Moose	% Hunter Success	Calc. Licences used in District	Calc. Kill of Moose	% Hunter Success
Sioux Lookout .....	1,352	563	41.6	1,591	1,106	69.5
Kenora .....	1,284	556	43.3	1,347	796	59.1
Fort Frances .....	671	268	37.8	—	—	—
Port Arthur .....	3,837	1,504	39.0	889	411	46.1
Geraldton .....	3,022	1,007	33.9	654	331	51.0
Kapuskasing .....	4,055	1,127	27.8	342	189	55.3
Cochrane .....	3,311	845	25.5	81	42	52.0
Swastika .....	4,060	845	20.8	79	23	29.1
Gogama .....	1,584	375	23.7	261	110	42.1
Chapleau .....	1,879	450	23.9	424	144	34.0
White River .....	1,978	470	23.8	651	265	40.9
Sault Ste. Marie .....	2,787	660	23.7	359	146	40.5
Sudbury .....	3,230	522	16.2	62	13	21.0
North Bay .....	2,235	341	15.2	22	4	19.5
Parry Sound .....	1,393	272	19.5	—	—	—
Lindsay .....	455	79	17.4	—	—	—
Tweed .....	132	10	7.6	—	—	—
Pembroke .....	389	100	25.7	—	—	—
Toronto Cash Office .....	—	—	—	—	—	—
TOTAL .....	37,654	9,994	26.5	44,416	13,574	30.5

The western region provides the best hunting in the Province for both residents and non-residents and 48.9-per-cent of the moose harvest was taken in that region last year. The overall success rate for this region was 44.6-per-cent compared to the 30.5-per-cent Provincial average.

Only in southern Ontario, south of the French and Mattawa Rivers, was there a decline in the kill from 1962. It is possible that very heavy hunting which occurs in this region may be overharvesting this portion of the moose herd. Plans are

underway to close the season south of the French and Mattawa Rivers in 1964, and the results of this protection will be of interest. Alternate open and closed moose seasons may be necessary to maintain the moose herd in southern Ontario.

## MOOSE RANGE SURVEYS

Almost every northern District conducted moose browse surveys in an effort to discover the effect of high moose populations on the range. All browse surveys are conducted in similar fashion and thus results are comparable for the complete Province. Only eighteen moose browse surveys had been conducted up until 1963 in Ontario; in 1963 twelve more surveys were completed and a great deal more information was gained on the influence of the present moose population on the habitat supporting it. Estimates of numbers of moose per square mile were obtained by conducting pellet group counts on a large number of systematically selected plots. These estimates could then be compared with the number of moose observed during aerial census work in winter.

## AERIAL INVENTORY

District staff for several years have used aircraft in winter to search for moose over randomly selected and/or permanent plots. During the winter of 1963-64, 125 plots were flown comprising more than 4,000 square miles. Many districts found moose densities of one moose for every one and a half or two square miles of range.

A new system of calculating relative moose densities by flying transects and counting tracks in winter was tested by the Gogama staff in January and February 1964. Although this method showed promise when it was conducted under optimum conditions, these conditions occur only rarely. It appears that the present system of searching for animals from orbiting aircraft at low levels is the best available.

## MOOSE DISEASE STUDIES

The Ontario Department of Lands and Forests co-operated with the Ontario Veterinary College and the Ontario Research Foundation in studies designed to determine the various types of parasites and diseases and their normal occurrence in Ontario's moose herd. Knowledge of the normal incidence of disease and parasites which now are present in the generally vigorous and healthy moose herd is essential if we are to detect changes in the welfare of the herd during the next few years.

## TAGGING OF MOOSE FROM HELICOPTERS

One of the more spectacular activities of game workers across the Province, moose tagging is designed to provide information on the annual movements of individual moose. Over much of the moose range access is a problem, thus roads and accessible waterways are heavily hunted. It is possible that moose from inaccessible areas fill the vacuum created by the removal of animals during the open season, and this possibility is being tested by marking animals usually 20 or more miles from the nearest hunting access. Return of the tags by hunters or sightings of colour marked animals is essential.

Personnel in Sioux Lookout, Geraldton and Sault Ste. Marie Districts attached metal ear tags and brightly coloured streamers to the ears of 32 moose in 1963. The procedure is relatively easy when you know how! The trick is to surprise



moose at the edge of water and drive them with the helicopter into deeper water. When they start swimming the machine is lowered so that the animal is "steered" by the two floats under the aircraft. The tagger then leans out on the float, grasps an ear firmly in one hand and applies the tag and streamer with tagging pliers. Such work will yield information which will be most valuable in the management of Ontario's moose herds.

## SPRING BEAR HUNTING

Increased interest has been shown in Ontario's spring bear hunt, particularly by the non-resident hunter. Residents of the Province do not share this enthusiasm and this is due in part to the absence of the bear hunting "tradition".

At present, we have no record of the numbers of bear taken in the autumn on resident big game or non-resident game licences. In fall most bears are taken incidentally by most hunters in quest of other game. For those whose prime object is a bear hunt, the spring hunt provides the best hunting opportunities.

The spring bear hunt was first initiated in 1937 and has increased greatly in popularity through the years. For instance non-resident licence sales for 1937, 1945, 1955 and 1963 were as follows: 30, 314, 1700 and 1999. Spring bear hunter success of non-residents as reported on return cards was a very high 43.6-per-cent and it is evident that there is a bias in reporting by successful hunters. Success, as determined by checks of hunters in the field is much lower, at 28.9-per-cent. Most districts reporting indicated an increase in the numbers of black bear available in 1963.

## UPLAND GAME AND WATERFOWL

In 1963 the hunting of small game in Ontario increased by a substantial amount, particularly in southern Ontario. In all, 376,800 resident hunting licences were sold in addition to 39,219 groundhog licences and 7,685 non-resident small game licences. The bulk of this hunting took place in southern Ontario near the heavily populated sections. Last year in Ontario there were 135 regulated townships and 95 of these occurred in Aylmer District alone. The most pressing problem at hand is not the scarcity of small game but the closure of land by the owners. Most small game hunters sought ruffed grouse, cottontail rabbits, pheasants, varying hare and European hare.

### Pheasants

The pheasant is a species which is widely hunted particularly in the agricultural areas of Aylmer, Hespeler, Simcoe and Lindsay Districts. In 1963 the resident native populations were again supplemented by birds supplied from our two bird farms at Normandale and Codrington. Some of these birds are provided as chicks, which are raised by individual townships or interested individuals for subsequent release, or as poults which are released directly later in the spring. A substantial number of adults also were retained for release immediately prior to the open season or on the pheasant shooting preserves operated by the Department. This is in addition to the many commercial shooting preserves which are now found in the populated areas of southern Ontario and as far north as Sudbury and Sault Ste. Marie. The following table shows the number and age of birds produced by both game farms and the numbers which were allocated to the districts.



1963	NORMANDALE				CODRINGTON			
	Chicks	Poult	Stock	Adults	Chicks	Poult	Stock	Adults
Erie	33,650	6,200	800	25	—	—	—	—
Hespeler	—	—	350	—	9,000	4,800	—	—
Maple	—	—	250	775	5,700	4,750	250	—
Lindsay	—	—	—	650	7,000	400	750	600
Kemptville	—	—	—	—	—	100	100	100
TOTAL	33,650	6,200	1,400	1,450	21,700	10,050	1,100	700

This year, the production of our Department bird farms was supplemented with stock from private sources which made up an additional 7,475 chicks and 1,000 adults.

The Pelee Island pheasant shoot in 1963, during the two day season with a bag limit of 9 cocks and 2 hens, was again very successful with 1,014 hunters taking 8,492 pheasants. Of these 6,545 were cocks and 1,947 were hens. It was calculated that 27.6 per cent of all the hunters bagged the limit of 11 birds. The average number of birds bagged per hunter-hour was 0.85, and the average number of birds bagged per hunter was 9.03. It also was estimated that the crippling loss was 1,800, thus representing approximately 21.2-per-cent of the bag. The total kill was estimated at 10,292 birds. A total of 1,306 were reported seen dead and

#### LOCATION BY COUNTIES OF COMMERCIAL PHEASANT FARMS 1963-1964

Algoma .....	5	Middlesex .....	6
Brant .....	2	Muskoka .....	1
Bruce .....	1	Norfolk .....	4
Carleton .....	3	Nipissing .....	1
Cochrane .....	1	Northumberland .....	5
Durham .....	3	Ontario .....	6
Elgin .....	8	Oxford .....	6
Essex .....	4	Perth .....	1
Frontenac .....	3	Peel .....	5
Grey .....	4	Peterborough .....	2
Halton .....	5	Prince Edward .....	1
Hastings .....	3	Rainy River .....	1
Huron .....	5	Renfrew .....	2
Kent .....	3	Simcoe .....	4
Lambton .....	3	Waterloo .....	11
Lanark .....	2	Welland .....	8
Leeds .....	2	Wellington .....	8
Lincoln .....	5	Wentworth .....	6
Manitoulin .....	1	York .....	6
		TOTAL .....	147

not picked up. Compared to the previous years the number of cocks bagged decreased by 2.6-per-cent and the number of hens increased by 16.6-per-cent, and the total bag increased by 1.3-per-cent. The number of hunters increased by 153 (17.8-per-cent over 1962). The post shooting population was estimated at 17,314 pheasants consisting of an estimated 3,410 cocks and 13,904 hens.

In the Lake Simcoe District, a second consecutive survey was conducted in Markham Township and from a total of 600 resident and non-resident licences sold a 10 per cent mail survey indicated that 46 hunters hunting 130 man-days killed 70 pheasants, for a success figure of 1.2 birds per hunter, per season. It required 1.86 man-days of hunting to bag a bird. In comparison with 1962, 1963 figures indicated a decrease of 12-per-cent in hunter success per season, together with a decrease of 17-per-cent in hunting pressure.

	MAIL		FIELD	
	20% 1962	10% 1963	1962	1963
Number of township licences issued.....	595	600	595	600
Number of questionnaires sent out .....	121	60	—	—
Number of hunters reporting .....	102	55	—	—
Number of questionnaires received incomplete	7	.00	—	—
Number of hunters reporting not hunting.....	10	9	—	—
Number of hunters reporting hunting.....	85	46	421	489
Number of pheasants harvested .....	147	70	206	234
Number of man-days hunted .....	188	130	—	—
Hunter Success (bird/per hunter season).....	1.7	1.52	—	—
Hunter Success (bird/per hunter day).....	.73	.54	.49	.48
Average number of days of hunting.....	2.2	2.83	—	—
Man-days to kill a pheasant .....	1.28	1.86	—	2.06
Man-hours hunted .....	—	—	1462	1742
Man-hours to kill a pheasant .....	—	—	7.1	7.4
Length of average hunting day when checked	—	—	3.5	3.56
Estimated harvest for township.....	920	764	—	—
Total number of licences not hunting.....	62.6	98	—	—

In Lake Erie District sex and age ratios were gathered by the conservation officers during the shoot and although the samples are small figures they are of interest for comparative purposes. They are as follows:

Adult cocks .....	27
Adult hens .....	44
Total adults .....	71
Adult cock/adult hen ratio .....	1:1.63
Juv. cocks .....	82
Juv. hens .....	81
Total Juv. ....	163
Juv. cock/Juv. hen ratio .....	1:1
Total cocks .....	109
Total hens .....	125
Total .....	234
Total cock/hen ratio .....	1:1.5
Juv. per adult hen .....	3.48

This figure corresponds very closely with Pelee Island. These figures were used for estimating the population for the fall shoot with 3.5 juveniles per adult hen with a brood.

## Ruffed Grouse

During the summer and fall of 1963, District Staff again conducted the annual inventory on the production and harvest of the ruffed grouse in Ontario. These figures have been compiled for reference and comparative purposes from the material they supplied. The purpose of obtaining such records is to estimate the success of the current breeding season. Thus on a comparative basis from year to year this production figure can be used to inform the public of the quality of hunting in various parts of the Province.

In order to have the District field officers concentrate on brood counts rather than other aspects of the work, it was suggested that the collection of wings and tails of grouse for age and sex studies would not be necessary for 1962 and 1963. However, a number of districts had already established patterns of co-operation with hunters on a local basis and a total of 2,576 wings and tails were collected in 16 districts. Where comparative data were available from last year it was found that eight districts had an increase in the ratio of young to adult female, while only three reported a decline in this ratio. The greatest change in this ratio was noted in the Kemptville District where the ratio rose from an average of 1.5 per female in 1962 to an average of 6.3 per female in 1963.

During the 1963 season the field staff was again asked to concentrate on obtaining returns from at least 100 grouse hunters which would provide a sample of 400 man-hours per district. This method was adopted because it was felt that a more valid comparison could be made from district to district. The recorded number of hunters on foot declined from 1,500 in 1962 to 949 in 1963, but the number of hours expended per man in hunting grouse was slightly greater at 3.8 in 1963 as compared to an average 3.0 hours in 1962.

The success of men hunting on foot in 12 districts increased, and declined in six. They range from a decline of 13.2 birds per hundred hours in Kemptville to an increase of 27.2 birds per hundred hours in Sioux Lookout.

It is of interest to note that over the past three hunting seasons the take per 100 man-hours has declined steadily in Kemptville, but that Parry Sound, Sault Ste. Marie and Sioux Lookout indicated a consistent increase over the same period and the rest varied.

In some locations, particularly in the north, grouse are hunted by driving roads rather than travelling on foot. The number of grouse seen or shot per 100 miles driven has been used to evaluate population trends. It is, however, questionable that these data are of real value since districts have noted that some hunters record the miles travelled from home to hunting grounds; others record all mileage during other travel during which time a grouse may be shot.

Road hunters were not so fortunate as those who hunted on foot since five districts reported an increase while five others reported a decrease; two districts were the same as last year. The mileage covered was 539 miles greater in 1963, but the number of hunters reporting was 402 less.

The brood count data reveals that where comparative figures were available that thirteen districts showed a decline in the average number of chicks per brood for 1963. The only districts to record an increase were Swastika and Port Arthur.

Table 1.

## RUFFED GROUSE BROOD COUNTS 1963

	June		July		August		September		Total '63		Total '62		Total '61	
	Brood	Yg/♀	Brood	Yg/♀	Brood	Yg/♀	Brood	Yg/♀	Brood	Yg/♀	Brood	Yg/♀	Brood	Yg/♀
Lake Erie .....														
Lake Huron .....														
Lake Simcoe .....	3	7.3	4	7.7	7	6.6	2	5.5	18	7.0		7.0		
Lindsay .....	37	6.2	28	4.4	15	4.2			91	5.2		6.9		
Tweed .....	19	5.7	20	6.0	13	6.2			52	5.9		6.0		
Kemptville .....					7	3.3	19	4.1	26	3.8		5.4		
Pembroke .....	29	6.0	25	5.4	7	5.4	2	6.0	63	5.7		7.0		
Parry Sound .....	19	6.2	57	4.9	7	5.6			83	5.6		5.8		
North Bay .....	35	5.1	85	3.5	19	4.4			140	4.0		5.2		5.6
Sudbury .....	9	6.1	7	7.0	13	7.0			32	6.3		7.0		4.0
S.S. Marie .....												5.4		
White River .....			4	7.0	3	4.2	1	3.0	8	4.7		6.2		
Chapleau .....	16	5.6	18	4.7	12	5.8			46	5.3		5.2		
Gogama .....	7	5.7	28	5.2	1	7.0			40	5.3		5.1		5.5
Swastika .....	1	3.0	22	5.1	8	5.1	3	4.7	31	5.0		7.0		
Cochrane .....	3	9.3	15	7.4	11	6.1	6	6.5	35	7.3				
Kapuskasing .....		6.0		6.0		5.2		6.5						
Geraldton .....												5.9		
Port Arthur .....	2	5.0	13	5.5	5	6.0	1	11.0	21	5.9		4.7		5.0
Fort Frances .....												6.2		
Kenora .....	4	4.3	6	5.2	12	5.4			22	5.1		5.2		
Sioux Lookout .....	9	6.0	9	4.4	10	5.2	1	5.0	29	5.2		5.7		6.6
ONTARIO TOTAL .....	193		341		150		35		737					



Table 2.

## SEX &amp; AGE RATIO OF RUFFED GROUSE IN HUNTERS' BAGS 1963

	Sample Size	ADULT			JUVENILE			Age Ratio Juv./Ad. ♀
		♂	♀	?	♂/♀	♂	Total	
Lake Erie .....	119							
Lake Huron .....	145							
Lake Simcoe .....	120							
Lindsay .....	119	29	13	8	2.2	22	27	3.8
Tweed .....							47	0.8
Kemptville .....	93	5	12		0.4	47	29	6.3
Pembroke .....	115						76	1.6
Parry Sound .....	444	78	73	7	1.06	122	144	3.9
North Bay .....							166	1.0
Sudbury .....	246	41	31		1.3	85	89	0.9
S.S. Marie .....	251	59	46	14	1.2	125	121	1.0
White River .....	95	17	14		1.1	30	34	1.1
Chapleau .....								
Gogama .....	338	49	57		1.1	125	107	4.0
Swastika .....	492	34	56	4	.62	169	215	0.7
Cochrane .....	115	28	19		1.7	34	34	1.0
Kapuskasing .....	11	3	4		0.75	3	1	3.6
Geraldton .....							4	1.0
Port Arthur .....								
Fort Frances .....	182	43	30		1.4	64	45	3.6
Kenora .....	38	5	2		2.5	18	13	6.2
Sioux Lookout .....							31	1.3
TOTAL .....	2923	391	357	33		844	859	
							1502	

Table 3.

## RUFFED GROUSE HUNTER SUCCESS — 1963

	On Foot		By Roads					
	Total Hunter- Days	Total Hours	Birds Seen /100 Hours	Birds Shot /100 Hours	Total Hunter- Days	Total Miles	Birds Seen /100 Miles	Birds Shot /100 Miles
Lake Erie .....	38	428	114	28.0				
Lake Huron .....	111	340	118	36.0				
Lake Simcoe .....	38	390	126	30.7				
Lindsay .....	57	163		16.6				
Tweed .....								
Kemptville .....				7.7				
Pembroke .....	204	413	120	27.8	96	1158	12.6	6.3
Parry Sound .....	205	489	100.4	39.3	275	3452	11.4	3.9
North Bay .....								
Sudbury .....	37	72	88	43.0	122	4320	42.0	2.8
Sault Ste. Marie .....		236		41.9	63	1564		3.1
White River .....		77	14.2	10.3		732	1.2	0.8
Chapleau .....	27	152	49	30.3	27			
Gogama .....	41	119	29.0	14.0	81	3291	3.4	2.0
Swastika .....	8	100	109	59.0	9	1013	6.8	3.9
Cochrane .....		244	91.4	54.1	28	1411	11.0	5.7
Kapuskasing .....	12	44	75.9	59.8	26	836	7.6	5.1
Geraldton .....	44	116	38.8	25.0	63	1631	2.3	1.2
Port Arthur .....								
Fort Frances .....								
Kenora .....	46	130	66.9	40.0	35	670	8.0	3.8
Sioux Lookout .....	35	103	80.6	51.0	20	451	8.0	5.5
TOTAL .....	949	3616			845	20529		

## Sharptailed Grouse

There are two races of sharptailed grouse in Ontario. The prairie sharptail is most commonly found in Kenora and Fort Frances Districts, and the northern sharptail is found chiefly in association with the boreal forest. The prairie sharptails are of particular interest because there are areas in southern Ontario, south of the French and Mattawa Rivers where it may be possible to establish these birds due to changing farm practices. For this reason a five year programme was set up to trap and transport live birds from the Fort Frances District to areas in southern and southwestern Ontario which were believed to be suitable for this species. A working arrangement was set up between Fort Frances and the Lindsay District for the initial plan and on March 18, 1963, forty birds were released. The sex ratio was 16 hens to 24 cocks. During the spring of 1964, several of these birds were observed by personnel engaged in the development of the Balsam Lake Park. In addition, Mr. S. D. Wires, on whose farm these birds were released, reported sighting and hearing the birds on several occasions. These early observations indicate that the initial planting of sharptails in Bexley Township has been successful and an additional planting is planned for the winter of 1964. In keeping with our five year programme further plantings may also be warranted.

The northern sharptail grouse have also been under observation by the staff of the Geraldton District and a trapping and banding programme was initiated this year at Kawkash which is approximately thirty miles north of Geraldton. In this area it is estimated that there is a population of 100 birds, and by January migrants increased this flock to approximately 500. In 1963, the initial banding attempts were unsuccessful because the birds were inaccessible due to the early break up of the roads. This programme will be continued next year.

## Hungarian Partridge

The Hungarian partridge were scarce in the Kemptville District during 1963. A total of 48 coveys consisting of 396 birds were located during January and February, but some unknown factor reduced the population during the spring hatch. Weather conditions during nesting were not favourable in 1963. The snowfall on May 1st and May 11th may have caused the adult birds to leave their nests. This may have been the cause of the renesting indicated by the peak of hatching dates during the first week of July.

During June five coveys were located ranging from 5 to 19 birds for a total of 57 birds with an average of 11.4 birds per covey. In August four coveys were located and these averaged 13.0 birds.

The following table gives the ratios of the birds checked from 1961 to 1963.

Year	Total Birds	Juv./ Adult	Juv./ Adult ♀	% Adults		% Juveniles	
				♂ ♂	♀ ♀	♂ ♂	♀ ♀
1961 .....	631	4.2	9.1	52.5	47.5	45.4	54.6
1962 .....	705	3.6	8.4	55.1	44.9	46.2	53.8
1963 .....	129	2.3	5.6	59.0	41.0	44.4	55.6

Although adequate breeding stock was present in the spring of 1963 in Kemptville, the expected reproduction did not occur and hunter success was the lowest in several years. The reason for this decline is not clear, but it may be that this species undergoes cyclic fluctuations.

Hungarian partridge population in the Tweed District was considered to be very low this year, and on Wolf Island the population decreased from approxi-

mately one covey for every 253 acres to less than one covey per 600 acres. There is an established population in the Arnprior-Renfrew area in McNab and Admaston townships, but there was less than one covey per 600 acres. There are also isolated coveys occurring near Kingston, Hay Bay and in Prince Edward County.

There are also huntable populations in the Niagara Peninsula and Haldimand Counties which supply reasonable shooting in some years.

During the past two years Hungarian partridges have been raised from clutches of eggs found in the Kemptville District. These birds have mated successfully and some forty of their progeny are now established at our Codrington Hatchery. If these birds continue to reproduce successfully, it is anticipated that larger plantings of this hardy strain will be available in the next few years.

## Bobwhite Quail

The build-up of quail in southwestern Ontario received a set back during the severe winter of 1962-63. These birds have shown some recovery, however, and a two-day season was held in Raleigh and Plympton Townships in Kent and Lambton Counties last year. We have continued our efforts to trap wild quail and to obtain clutches of quail eggs for incubation at Normandale Hatchery. During the late spring several adults were captured but they are apparently too wild to produce any eggs. We were, however, successful in obtaining 13 eggs which were successfully hatched, and these birds may supply a nucleus for future breeding stock. It is planned to propagate this wild strain of birds so that the hardy characteristics inherent in the Ontario birds may be retained to develop birds which can be released on public shooting grounds. The greatest difficulty this year has been to prevent the release of undesirable semi-domestic strains of bobwhite quail into natural habitat.

## RABBITS

The cottontail rabbit was abundant in suitable habitat throughout southwestern Ontario in 1963. The European hare continues to be a popular game species particularly in agricultural areas of the Aylmer District and the large open areas in the Bruce and Grey Counties of Hespeler.

## SQUIRREL

The Black Squirrel is abundant throughout its range, but it is not highly sought after by small game hunters. This species is apparently increasing its northern range as evidenced by the numerous reports from the Parry Sound and Pembroke Districts.

## MOURNING DOVES

Our field conservation officers in southern Ontario again assisted the Canadian Wildlife Service in their annual inventory of this species as in 1961 and 1962.

There was no apparent change in the breeding population of this abundant species in Ontario, despite the heavy hunting pressure during migration in the United States. Ontario has no season on the species.

## WATERFOWL

Waterfowl hunting continues to be a popular sport in Ontario. Surveys conducted by Federal agencies indicate that there may be as many as 95,000



hunters who participate in waterfowl hunting in the Province.

Waterfowl research is principally a responsibility of the Federal Government but our Department does contribute men and money to the management of this resource.

BROOD SURVEYS

Most of the twenty-two administrative districts within the Province cooperate in the annual brood survey of waterfowl and this year it was determined from their reports that Erie, Tweed, Sault Ste. Marie, Cochrane, Kapuskasing, Kenora, Fort Frances and Sioux Lookout reported an increase in the brood size. Lake Huron and Chapleau reported a decrease and the remaining districts reported that the population was about the same as it was last year.

Waterfowl Banding

Banding is an important phase of waterfowl management because of the large numbers of ducks and geese produced in Ontario and shot in other provinces and states. Ontario is a member of the Atlantic Flyway Council and much of our efforts are directed towards a cooperative programme with this organization. We are also affiliated with the Mississippi Flyway Council. In keeping with our obligations to these councils, ten districts have devoted considerable time and effort to the capture and banding of waterfowl in cooperation with the Canadian Wildlife Service and the U.S. Fish and Wildlife Service. The following Districts had waterfowl banding programmes this year: Pembroke, Gogama, Sudbury, Lindsay, Simcoe, Kemptville, Fort Frances, Geraldton, Tweed, Parry Sound. These Districts banded a total of:

Mallards .....	608
Blacks .....	476
Wood duck .....	174
Blue-winged Teal .....	134
Canada Goose .....	99
Green-winged Teal .....	31
Lesser Scaup .....	10
Baldpate .....	5
Common Goldeneye .....	3
Pintail .....	2
Oldsquaw .....	1
Redhead .....	1
Ring-necked .....	1
Ruddy .....	1

In addition, our field staff, particularly in Simcoe and Aylmer, initiated and promoted banding by private individuals or sportsmen's groups on Long Point and at Oshawa. The cooperating organizations who often devoted full time and effort to these programmes banded the following number of waterfowl:

Blacks .....	492
Mallards .....	382
Blue-winged teal .....	381
Wood duck .....	188
Green-winged Teal .....	158
Black-Mallard Hybrid .....	50
Pintail .....	22
Baldpate .....	1
Gallinule .....	78
Coot .....	11

Table 1

#### WATERFOWL HUNTER SUCCESS 1963

Area	No. Hunters	Hours Hunted	Ducks Killed	Hrs./ Bird	Birds/ Hunter
Leeds .....	74	235	98	2.4	1.3
Lanark .....	88	541	234	2.3	2.6
Grenville .....	18	50	7	7.1	.4
Ottawa R. (area east of Ottawa)	59	149	49	3.0	.8
Ottawa R. (area west of Ottawa)	88	259	58	4.5	.65
*Stormont, Dundas, Glengarry .....	182	672	445	1.5	2.4
Complete District .....	509	1906	891	2.1	1.8

\*Includes data from Table 2.

WATERFOWL SHOOT OPENING DAY, OCTOBER 5, 1963    LAKE ERIE DISTRICT  
SPECIES COMPOSITION OF THE BAG AND HUNTER SUCCESS

	Long Point Zone A		Long Point Zone B		Long Point Total		Rondeau		Holiday Beach	
	No.	%	No.	%	No.	%	No.	%	No.	%
Mallard	56	30.1	8	9.3	64	23.5	102	26.3	5	16.1
Black	17	9.1	5	5.8	22	8.1	44	11.4		
Gadwall	4	2.2	4	4.6	8	2.9				
Baldpate	9	4.8			9	3.3				
Pintail	6	3.2	2	2.3	8	2.9	11	2.8		
Green-winged Teal	41	22.0	25	29.0	66	24.2	124	32.0		
Blue-winged Teal	32	17.2	28	32.5	60	22.0	37	9.5	1	3.2
Shoveler							2	0.5		
Wood Duck	11	5.9	9	10.4	20	7.3	63	16.2		
Scaup	10	5.4	4	4.6	14	5.1	4	1.0		
Goldeneye							1	0.3		
Coot			1	1.1	1	0.4				
Total Birds (25 geese at Holiday Beach)	186		86		272		388		31	80.7
Total Birds 1962	169	inc.10	30	inc.153	199	inc.37	352	inc.10	91	dec.66
Number of Hunters checked	91		76		167		227		182	
Man-hours hunted	462		368		830		1390		664	
Birds per hunter	2.03		1.1		1.62		1.71		0.17	
Birds per full hunter day	4.0		2.3		3.3		2.8		0.5	
Birds per hunter-hour	0.40		0.23		0.33		0.28		0.05	
Birds per hunter-hour 1957					0.43		0.42			
Birds per hunter-hour 1956					0.98		0.59			
Hunters with Dogs							104	46		
Cripples Lost							63	16.2		
Average hours per hunter	5.1		4.8		5.0		6.1		3.6	

Canada  
Geese

Many private banders also contributed to the waterfowl programme, however, these are not included in our records.

## Waterfowl Hunting Returns

The hunting of waterfowl in Ontario is becoming increasingly difficult due to the large number of hunters interested in this sport and the relatively limited spaces which are suitable for this type of hunting. This crowding has led to a number of distasteful instances particularly on opening day in the larger uncontrolled areas, such as, Holland and Luther Marshes. As a rule, most duck hunters count on a good opening day and somewhat unpredictable success on their favourite marshes during the rest of the season. Under controlled waterfowl hunting conditions, such as we have in five of our parks at the present time, hunting is shown to be better over a longer period of time.

	Method of Check	Waterfowl Hunting Area	No. of Ducks Killed	No. of Hunters	Kill per Hunter	Kill per Hunter per 1000 Acres
Luther	Stratified sample.	5700 acres	2010	3726	0.54	.1
Long Point	Precise compulsory.	1700 acres	1417	1761	0.83	.5
Rondeau	Voluntary partial.	3000 acres	1147	885	1.30	.4

Despite the variation in the accuracy of the figures, it appears that the quality of hunting on the controlled unit at Long Point was slightly better than the success attained at Luther under uncontrolled conditions even though Luther is a marsh twice the size and at least twice the quality. Except for Rondeau these figures show a significant difference in the quality of hunting which can be attained on a marsh which is managed for waterfowl hunting.

## Goose Hunting in Ontario

Goose hunting in Ontario is often thought to be limited to the areas immediately adjacent to James and Hudson Bays but recent work in this field has indicated that it is quite feasible to attract large numbers of Canada geese for the hunters in Ontario.

This year preliminary plans were made for a goose shooting refuge in Cochrane and Lake Simcoe Districts. Other districts have plans pending. Some geese are shot in the area of Essex County where we have an extended season but the most promising experiment is being carried out in cooperation with the Lake St. Lawrence Parks development where in addition to some duck management a colony of breeding Canada geese has been established at Chrysler Park. There were 1,500 in the sanctuary on April 8 which is the largest number observed in the area during a spring migration. The total known gosling production on Lake St. Lawrence since 1960 is 535 birds. Of these 190 were produced on the Canadian side while the remainder were produced in the United States. Over 980 birds were counted during the migration period in November.

By far the greatest number of geese are still taken in the early part of the season in northern Ontario. The following table indicates the number of species killed in 1963.



## TOTAL GOOSE KILL FROM THE CHECKING STATIONS AND LICENCED CAMPS

Blue and Snow Geese .....	13926
Canada Geese .....	611
Ducks .....	2947
Snipe .....	196
<b>TOTAL .....</b>	<b>17680</b>

Number of Canadian Hunters .....	1318
Number of American Hunters .....	320
Number of Treaty Indians .....	661
<b>TOTAL NUMBER OF HUNTERS .....</b>	<b>2299</b>
Hunters with no kills .....	428

The increase of hunters this year is mostly due to tourist outfitters activity and publicity in throwing more light into the hunting picture in James Bay. Also last years hunting success, which was fairly good, and lack of employment in the area would play a part in the increased number of hunters.

## CHECKING STATIONS, LICENCED CAMPS AND INDIAN KILLS IN PATRICIA EAST PORTION

	1957	1958	1959	1960	1961	1962	1963
Canada Geese .....	4124	6685	9097	7850	6022	9054	6797
Blue-Snow .....	22736	30844	31158	33926	27727	27316	26906
Ducks .....	6229	7963	8067	7414	8121	5898	7600
Snipe .....						367	196
<b>TOTAL KILLS .....</b>	<b>33089</b>	<b>45492</b>	<b>48322</b>	<b>49190</b>	<b>41870</b>	<b>42268</b>	<b>41303</b>

**Please Note**—(Snipe are not included in totals).

## Provincial Hunting Areas

Nine specialized areas were operated in 1963 where special permits were issued for the hunting of pheasants and waterfowl.

On the four controlled pheasant hunting units, which are all less than 450 acres, 1,672 hunters paid a daily fee of \$5.00 to hunt pheasants. They bagged a total of 2,531 birds. Operating costs were \$9,751.65 and revenues totalled \$8,370.00. The cost of pheasant planting on these areas, totalling \$6,565.50, was included in the operating costs, although the birds used would have been stocked elsewhere in non-revenue producing areas.

On the two controlled waterfowl hunting units, 2,236 hunters paid a daily blind rental fee of either \$2.00 or \$4.00. They bagged a total of 1,775 ducks and geese. Operating costs were \$4,753.53 and revenues totalled \$4,380.00. On these areas, where quality hunting conditions are provided, a slight increase in rental fees may be justified to balance operating costs.

On the three waterfowl hunting units, where annual permits are issued (1,057 permits), an excess of 3,000 hunter-days were expended in bagging an excess of 1,600 ducks. Hunters are not provided with any special facilities and the total use is not known. Operating costs, nevertheless, were \$2,567.98 and revenues were \$4,228.00.

A total of 4,965 hunters (bagging an excess of 5,912 units of game) used the nine specialized hunting areas in 1963. Total revenue was \$16,978.00. Operating expenditures, amounting to \$17,073.16, included \$6,565.50 worth of pheasants diverted from the regular pheasant stocking program. There was, therefore, a net loss of \$95.16.

# PUBLIC HUNTING GROUND OPERATIONS

1.	Controlled Pheasant Units	Hunters	Game Bagged
	Darlington .....	590	910
	Sibbalds .....	461	665
	Earl Rowe .....	400	570
	Presqu'ile .....	221	386
	TOTAL .....	1,672	2,531
2.	Controlled Waterfowl Units	Hunters	Game Bagged
	Long Point .....	1,761	1,417
	Darlington .....	475	358
	TOTAL .....	2,236	1,775
3.	Permit Waterfowl Units		
		Permits	Checked Hunters      Bag*
	Rondeau .....	456	885      1,147
	Holiday Beach .....	376	1,963      459
	Presqu'ile .....	225	225      —
	TOTAL .....	1,057	3,073*      1,606*
	TOTAL .....	4,965	(5,912*)
	(*) Hunters and game checked, but not necessarily total use or game bagged.		

(\*) Hunters and game checked, but not necessarily total use or game bagged.

## Location by Counties of Game Bird Hunting Preserves 1963-1964

Durham .....	1	Northumberland .....	4
Elgin .....	1	Ontario .....	1
Essex .....	3	Perth .....	1
Grey .....	1	Peterborough .....	1
Halton .....	1	Prince Edward .....	1
Hastings .....	1	Renfrew .....	1
Kent .....	3	Simcoe .....	1
Lambton .....	1	Waterloo .....	2
Lennox and Addington .....	1	Welland .....	1
Lincoln .....	2	Wentworth .....	1
Middlesex .....	1	York .....	1
Norfolk .....	2		
		TOTAL .....	33

## Report of Activities of Game Bird Hunting Preserves for the Year Ending March 31st, 1964

Adminis- trative Districts	Number of Preserves	Total Purchases	Total of Birds Released	Total of Birds Removed by Hunters	Total Number of Hunters	Stock Birds on hand March 31, 1964
Aylmer .....	14	8,202	8,124	5,233	1,168	2,237
Hespeler .....	5	7,350	9,912	6,694	1,164	403
Lindsay .....	6	1,100	2,430	1,675	471	328
Maple .....	3	4,687	2,893	1,591	886	34
Tweed .....	3	36	6,411	3,151	571	560
Kemptville .....	1	400	350	180	36	25
Pembroke .....	1	Nil	30	22	8	3
TOTAL .....	33	21,775	30,150	18,546	4,304	3,590

A Table indicating the activities of the Commercial Pheasant Farms for the year ending March 31st, 1964

PURCHASES					SALES				Stock on Hand as of March 31st, 1964
Administrative District	Number of Farms	Eggs	Chicks and Poult	Adults	Dressed Birds	Eggs	Chicks and Poult	Live Adult Birds	
Aylmer	41	425	6,138	3,403	5,132	3,992	28,423	8,941	3,399
Hespeler	50	70	6,340	9,714	11,734	647	5,025	3,931	1,368
Kemptville	7	Nil	765	59	536	Nil	75	500	110
Lindsay	10	Nil	100	716	739	86	100	155	456
Maple	20	Nil	40	90	4,930	79	75	2,732	550
Parry Sound	1	Nil	Nil	Nil	6	24	Nil	Nil	9
Sault Ste. Marie	6	Nil	404	Nil	295	Nil	Nil	27	277
Tweed	7	Nil	300	Nil	1,450	186	842	103	776
Fort Frances	1	Nil	175	Nil	10	Nil	Nil	Nil	Nil
Cochrane	1	Nil	Nil	Nil	Nil	10	14	5	100
North Bay	1	Nil	Nil	40	978	Nil	Nil	Nil	Nil
Pembroke	1	Nil	Nil	Nil	32	Nil	Nil	Nil	3
Sudbury	1	Nil	Nil	Nil	383	Nil	Nil	100	100
TOTAL	147	495	14,262	14,022	26,225	5,024	34,554	16,494	7,148

NOTE: In addition to the above figures, 6,560 Chicks and Poult and 250 Adult Birds were imported from the United States.

# VOLUME TREND OF O.T.A. FUR SALES

	Pelts Sold 1962-63	Pelts Sold 1963-64	% Change
Beaver .....	37973	50291	+ 32
Fisher .....	1003	1733	+ 73
Col. Fox .....	1054	1233	+ 17
Lynx .....	931	970	+ 4
Marten .....	1959	5157	+ 163
Mink .....	7542	10739	+ 42
Muskrat .....	56330	97780	+ 73
Otter .....	1359	2025	+ 49
Raccoon .....	3863	5735	+ 48
Squirrel .....	1159	1049	- 9
Weasel .....	2074	2700	+ 30
Wolf .....	87	149	+ 71
Bear .....	25	113	+ 352
Castoreum .....	868 lbs	1493 lbs	+ 72



## FUR MANAGEMENT

The year 1963-64 saw more records broken in wild fur production. The number of beaver harvested was the highest ever recorded for Ontario, while its value continued to rise. Fisher were harvested in numbers unequalled since 1928-29, but their value still remains away below that of only a few years ago despite a rise in value over last year. The harvest of marten was unprecedented, exceeding by some 3,500 the previous record set in 1961-62, which was in turn several thousands higher than any other year. The value of marten remains comparatively low, however, slipping down somewhat from their value in the previous season, but not sinking nearly as low as the period 1955-56 to 1961-62 when they were nearly worthless. The "old reliable" of the fur industry, otter, also presented us with a harvest unprecedented while its value was the highest since 1945-46.

Some other staples of the trappers' income slipped a little. Lynx production was down significantly, as might be expected with a cycle of roughly ten years following the snowshoe hare cycle. The latest "peak" in population was in 1962-63. The value of lynx rose significantly at the same time, though not in the same proportion as the drop in production. Mink continued its downward trend in numbers at about the same rate as last year, but this year slipped in value as well. The number of muskrats trapped increased somewhat while their value fell, though not significantly. Muskrat production is still far below the desirable harvest that populations indicate.

The Ontario Trappers Association (O.T.A.) Fur Sales Service at North Bay experienced another highly successful year in 1963-64. The total volume of fur sold at the sale increased by about 56-per-cent over 1962-63. Not only did the total volume increase, but the proportion of the total provincial harvest sent to the O.T.A. sale increased by about 5-per-cent, indicating increased participation in the fur sales.

The total value of all the wild pelts harvested by the trappers of this Province can be calculated by using the seasonal average price received at the O.T.A. sales for each species. We then arrive at an approximate value of \$4,309,182.00 for the year 1963-64. This is an increase of 19.9-per-cent over last year's figures of \$3,593,281.00, at the same time the total volume increased from 614,724 pelts in 1962-63 to 776,385 pelts in 1963-64, which means an increase of 26.3-per-cent. Hence it is obvious that the increase in total value has not quite kept pace with the increase in total harvest, but the industry was nevertheless in a comparatively stable and healthy condition in 1963-64.

### TRENDS IN TOTAL SEALED PELTS AND VALUES

	Total Sealed 1962-63	Total Sealed 1963-64	% Change Volume	Average* Value 1962-63	Average* Value 1963-64	% Change Value
Beaver .....	167,408	182,933	+ 9.3%	12.67	14.03	+10.7%
Fisher .....	2,830	3,779	+33.4%	10.27	13.61	+32.5%
Lynx .....	4,743	3,220	-32.2%	13.28	14.80	+11.4%
Marten .....	7,748	13,796	+77.8%	6.61	6.13	- 7.3%
Mink .....	43,048	39,356	- 8.6%	12.21	11.73	- 3.9%
Otter .....	8,326	9,194	+10.4%	23.82	30.98	+30.0%

\*Average for all grades and sizes throughout season at O.T.A. fur sales, North Bay.

# RECORD OF CATCH BY DISTRICTS, 1963-64

	No. of Trap	Beaver*	Fisher*	Lynx*	Marten*	Mink*	Otter*	Col.Fox**	Muskra††	Raccoon**	Skunk**	Squirrel**	Weasel**
Chapleau .....	79	1,256	98	37	978	369	136	54	1,442	—	—	1	95
Cochrane .....	148	3,150	170	171	1,730	706	165	27	1,364	—	—	4	210
Port Frances .....	155	11,936	253	90	31	817	246	136	9,562	—	—	695	224
Geraldton .....	243	8,959	40	106	2,265	867	499	71	4,533	—	—	319	268
Gogama .....	91	1,183	94	54	1,003	432	125	43	2,466	—	—	55	123
Kapuskasing .....	185	9,478	110	118	3,073	1,182	489	69	6,228	—	2	14	330
Kemptville .....	648	3,894	—	—	—	799	32	38	47,000	474	—	99	232
Kenora .....	415	15,671	308	100	18	1,177	438	152	10,049	—	—	281	274
Lake Erie .....	442	2	—	—	—	1,254	—	154	46,518	1,359	34	9	47
Lake Huron .....	642	63	—	—	—	2,614	—	145	45,344	3,809	10	31	116
Lake Simcoe .....	353	1,949	3	—	—	2,378	32	38	21,612	904	4	28	64
Lindsay .....	578	7,966	223	12	69	2,440	188	50	35,457	928	—	104	195
North Bay .....	126	6,828	259	71	74	2,174	284	91	5,595	—	—	104	239
Parry Sound .....	739	14,147	142	11	238	3,769	510	103	139,656	592	—	172	303
Pembroke .....	166	5,554	329	1	339	1,333	244	34	7,752	95	—	23	67
Port Arthur .....	261	11,791	433	320	727	517	212	300	1,785	—	—	196	358
Sault Ste. Marie .....	281	3,600	89	53	468	958	282	119	2,367	11	1	56	197
Sioux Lookout .....	145	3,477	122	92	310	184	162	31	1,200	—	—	250	180
Sudbury .....	176	8,357	155	67	20	2,262	350	118	5,965	19	—	24	300
Swastika .....	206	3,408	233	250	148	1,042	123	52	1,149	—	—	31	245
Tweed .....	1,140	16,174	46	6	7	2,184	348	28	74,382	790	—	140	398
White River .....	90	4,272	35	49	880	542	207	24	1,910	—	—	6	85
Patricia Central .....	856	17,570	90	603	584	5,791	2,167	67	7,767	—	—	2,019	1,089
Patricia East .....	309	10,943	36	302	751	1,107	1,078	40	6,685	—	3	151	428
Patricia West .....	709	11,305	511	707	83	2,458	827	41	9,303	—	—	1,623	1,324

\*Accurate, figures from sealing reports.

\*\*Estimate only, figures from trappers' returns.

# AVERAGE PRICE AND CATCH RECORDS

	1957-58	1958-59	1959-60	1960-61	1961-62*	1962-63*	1963-64*
<b>Beaver</b>							
Year's Catch .....	140371	120566	110615	132375	137609	167408	182933
Ave. Price Pd. ....	10.50	10.40	13.30	10.70	10.48	12.67	13.03
<b>Fisher</b>							
Year's Catch .....	3173	2365	3125	3348	2728	2830	3774
Ave. Price Pd. ....	16.30	15.95	19.20	8.00	13.57	10.27	12.61
<b>Fox, Coloured</b>							
Year's Catch .....	2031	1858	1188	1655	2960	1647	2025
Ave. Price Pd. ....	.75	1.45	2.77	2.10	3.32	5.02	5.14
<b>Fox, Arctic</b>							
Year's Catch .....	128	302	85	98	130	61	35
Ave. Price Pd. ....	14.65	14.35	20.00	20.00	15.00	15.00	15.00
<b>Lynx</b>							
Year's Catch .....	1103	2242	4038	4502	4578	4743	3217
Ave. Price Pd. ....	6.75	13.40	15.10	7.70	9.02	13.28	14.65
<b>Marten</b>							
Year's Catch .....	6061	4559	6361	9325	10260	7748	13783
Ave. Price Pd. ....	4.75	4.95	4.75	3.45	3.66	6.61	5.63
<b>Mink</b>							
Year's Catch .....	49484	44926	47445	61520	47215	43048	39353
Ave. Price Pd. ....	10.50	11.40	13.25	8.35	8.98	12.21	10.73
<b>Muskrat</b>							
Year's Catch .....	446578	337986	320287	304731	377888	345428	497091
Ave. Price Pd. ....	.75	.84	.81	.54	.98	1.60	1.50
<b>Otter</b>							
Year's Catch .....	8519	6698	6040	7422	7456	8326	9165
Ave. Price Pd. ....	22.50	22.70	25.90	23.70	24.40	23.82	29.73
<b>Raccoon</b>							
Year's Catch .....	9596	4200	10580	7433	9543	9190	8981
Ave. Price Pd. ....	1.30	1.35	2.01	1.70	3.00	3.39	2.01
<b>Skunk</b>							
Year's Catch .....	2019	572	389	216	264	112	54
Ave. Price Pd. ....	.82	.87	.70	.45	.50	.72	.50
<b>Squirrel</b>							
Year's Catch .....	14778	11330	9255	12496	10099	12851	6435
Ave. Price Pd. ....	.15	.11	.10	.12	.15	.23	.33
<b>Weasel</b>							
Year's Catch .....	16410	11626	12472	12631	11143	10213	7391
Ave. Price Pd. ....	.52	.56	.60	.45	.49	.39	.44

\*Average price used is from O.T.A. North Bay Sales.

PROPORTION OF ONTARIO'S FUR PRODUCTION  
MARKETED BY O.T.A. FUR SALES

	Province Total Pelts	1962 - 1963		Province Total Pelts	1963 - 1964	
		O.T.A. Fur Sales. Pelts Sold	% of Total		O.T.A. Fur Sales. Pelts Sold	% of Total
Beaver .....	167,408	37,973	22.7	182,933	50,291	27.5
Fisher .....	2,830	1,003	35.4	3,774	1,733	45.9
Fox Col. ....	1,647	1,054	64.0	2,025	1,233	60.9
Lynx .....	4,743	931	19.6	3,217	970	30.2
Marten .....	7,748	1,959	25.3	13,783	5,157	37.4
Mink .....	43,048	7,542	17.5	39,353	10,739	27.3
Muskrat .....	345,428	56,330	16.3	497,091	97,780	19.7
Otter .....	8,326	1,359	16.3	9,165	2,025	22.1
Raccoon .....	9,190	3,863	42.0	8,981	5,735	63.9
Skunk .....	112	.....	.....	54	.....	.....
Squirrel .....	12,851	1,159	9.0	6,435	1,049	16.3
Weasel .....	10,213	2,074	20.3	7,391	2,700	36.5
Wolf .....	287	87	30.3	577	149	25.8
Castoreum .....	868	868	100.0	1,493	1,493	100.0
Bear .....	25	25	100.0	113	113	100.0
TOTAL .....	614,724	116,227	18.9	776,385	181,167	23.3



# REVENUE RECEIVED FROM TANNERS PERMITS

July 1st, 1963 to June 30th, 1964

	Total amount of pelts	Total amount of revenue
Beaver .....	48,182	\$48,182.00
Fisher .....	1,257	1,257.00
Fox (White) .....	13	9.75
Lynx .....	944	141.60
Marten .....	4,823	2,411.50
Mink .....	11,753	11,753.00
Muskrat .....	131,827	6,591.35
Otter .....	1,920	2,400.00
Weasel .....	2,558	127.90
Wolverine .....		
Fox (Cross) .....	7	
Fox (Red) .....	1,547	
Fox (Silver, black or blue) .....	6	
Raccoon .....	7,221	
Skunk .....	2	
TOTAL REVENUE .....		<u>\$72,874.10</u>

# REVENUE RECEIVED FROM EXPORT PERMITS

July 1st, 1963 to June 30th, 1964

	Total amount of pelts	Total amount of revenue
Beaver .....	135,791	\$135,791.00
Fisher .....	2,537	2,537.00
Fox (White) .....	50	37.50
Lynx .....	2,393	358.95
Marten .....	9,349	4,674.50
Mink .....	29,114	29,114.00
Muskrat .....	319,149	15,957.45
Otter .....	7,594	9,492.50
Weasel .....	10,200	510.00
Wolverine .....	1	.40
Fox (Cross) .....	192	
Fox (Red) .....	3,140	
Fox (Silver, Black or Blue) .....	24	
Raccoon .....	11,302	
Skunk .....	27	
TOTAL REVENUE .....		<u>\$198,473.30</u>

STATEMENT OF WILD PELTS EXPORTED OR TANNED  
SHOWING NUMBER AND VALUE OF PELTS AND ROYALTY

Received From July 1st, 1963 to June 30th, 1964

	Pelts Exported	Pelts Tanned	Total Pelts	Value of Pelts
Beaver .....	135,791	48,182	183,973	\$2,327,258.45
Fisher .....	2,537	1,257	3,794	43,441.30
Fox (White) .....	50	13	63	1,197.00
Lynx .....	2,393	944	3,337	44,882.65
Marten .....	9,349	4,823	14,172	85,740.60
Mink .....	29,114	11,753	40,867	482,230.60
Muskrat .....	319,149	131,827	450,976	649,405.44
Otter .....	7,594	1,920	9,514	249,742.50
Weasel .....	10,200	2,558	12,758	6,379.00
Wolverine .....	1		1	17.00
Fox (Cross) .....	192	7	199	865.65
Fox (Red) .....	3,140	1,547	4,687	17,716.86
Fox (Silver, black or blue) .....	24	6	30	165.00
Raccoon .....	11,302	7,221	18,523	32,970.94
Skunk .....	27	2	29	15.95
	<u>530,863</u>	<u>212,060</u>	<u>742,923</u>	<u>\$3,942,028.94</u>
Revenue received from Export Permits .....				\$ 198,473.30
Revenue received from Tanners Permits .....				\$ 72,874.10
TOTAL REVENUE .....				<u>\$ 271,347.40</u>

STATEMENT OF RANCH RAISED PELTS EXPORTED OR  
TANNED SHOWING NUMBER AND VALUE OF PELTS FROM

July 1st, 1963 to June 30th, 1964

	Pelts Exported	Pelts Tanned	Total Pelts	Value of Pelts
Fox (Silver, Black or Blue) .....	48	92	140	1,260.00
Mink .....	372,777	64,526	437,303	\$7,018,713.15
	<u>372,825</u>	<u>64,618</u>	<u>437,443</u>	<u>\$7,019,973.15</u>

WOLF BOUNTY 1963-1964

Under the Wolf and Bear Bounty Act, a \$25.00 bounty is paid on a timber or brush wolf three months of age or over and a \$15.00 bounty is paid on a timber or brush wolf under three months of age.

The Department pays the whole bounty on wolves killed in the provisional judicial districts, whereas, on wolves killed in the counties, the Department pays 40-per-cent of the bounty and the respective county pays the remaining 60-per-cent.

The whole pelt of the wolf must be presented as evidence, on wolves killed in the counties and the Provisional Judicial District of Manitoulin. However, the whole unskinned head of the wolf may be presented in lieu of the whole pelt on wolves killed in the provisional judicial districts, excepting Manitoulin. The following Table shows the number and species of wolves killed and the amount of bounty paid during the past five years:

Period	Timber	Brush	Pups	Total	Bounty
For year ending Mar. 31, 1960 .....	939	528	42	1509	\$33,619.00
For year ending Mar. 31, 1961 .....	1320	761	57	2138	\$48,766.00
For year ending Mar. 31, 1962 .....	1136	794	68	1998	\$44,510.00
For year ending Mar. 31, 1963 .....	1276	691	64	2031	\$44,664.00
For year ending Mar. 31, 1964 .....	1342	862	61	2265	\$44,999.00

A total of 1,672 claims were received and considered by the Department. Ten claims representing four wolves, eight dogs and two cross foxes, and three claims with which insufficient evidence was produced, were refused.

While there was an increase in the wolf kill of 11.5-per-cent this year as compared to the previous year, this increase was mainly in the western region of the Province.

It is interesting to note that 97 wolves were killed by being struck by cars and trucks on highways and other travelled roads. One of the above was killed on the Don Valley Parkway in Metropolitan Toronto. Three wolves were killed by train. While most of the above were killed under accidental circumstances, special permits were issued to hunt and shoot six wolves from a snow scooter and 217 wolves from aircraft. This represents an increase of 34.78-per-cent in the number of wolves killed from aircraft as compared to the number killed from aircraft last year.

A report on the Wolf Research Project will be found in the Research Branch's section of this Annual Report.

The following table shows the number of wolves killed by counties and districts on which claims for bounty were received:

County	Timber	Brush	Pups	Total
Brant .....		4		4
Bruce .....		9	10	19
Carleton .....		2		2
Dundas .....		1		1
Durham .....		9		9
Elgin .....		2	4	6
Essex .....		1		1
Frontenac .....	2	26	2	30
Grey .....		17		17
Haldimand .....		3		3
Halton .....		1		1
Hastings .....	32	23		55
Huron .....		2	8	10
Kent .....		4		4
Lambton .....		4		4
Lanark .....		10		10
Leeds & Grenville .....		14		14
Lennox & Add. ....	6	29		35
Middlesex .....		1	4	5
Norfolk .....		9		9
Northumberland .....		8		8
Ontario .....		10		10
Peterborough .....	14	7		21
Prescott .....		2		2
Renfrew .....	42	14		56
Russell .....		1		1
Simcoe .....		40	1	41
Victoria .....	5	8		13
Waterloo .....		6		6
Welland .....		5		5
Wellington .....		1		1
Wentworth .....		1		1
York .....		2		2
TOTAL FOR COUNTIES .....	101	276	29	406

District				
Algoma .....	94	99		193
Cochrane .....	162		14	176
Haliburton .....	33	3		36
Kenora .....	347	111	2	460
Manitoulin .....	18	33	14	65
Muskoka .....	19	11		30
Nipissing .....	111	13		124
Parry Sound .....	96	27		123
Rainy River .....	51	154	2	207
Sudbury .....	143	81		224
Timiskaming .....	29	2		31
Thunder Bay .....	138	52		190
TOTAL FOR DISTRICTS .....	1241	586	32	1859
TOTAL FOR COUNTIES .....	101	276	61	2256
GRAND TOTAL .....	1342	862	61	2256

## Appendix I

### Open Seasons

#### MOOSE

##### SCHEDULE 5 — Residents only

November 18 to November 23, 1963.

(No dogs)

The geographic townships of Hilton, Jocelyn and St. Joseph in the Territorial District of Algoma.

##### SCHEDULE 11 — Residents and Non-Residents

September 16, 1963 to January 3, 1964.

Beginning at the intersection of the boundary between Ontario and Quebec with the southerly shore of James Bay; thence southerly along that boundary to its intersection with the centre line of the right of way of the most northerly east-west line of the Canadian National Railways; thence westerly along that centre line to its inter-section with a meridian line through the northeast corner of the geographic Township of Bell in the Territorial District of Thunder Bay; thence northerly along the said meridian line to its intersection with the Albany River; thence in a general northerly and westerly direction following that river to the Wabassi River flowing into the Albany River; thence in a northwesterly direction following the Wabassi River to its intersection with the 11th Base Line; thence westerly along the 11th Base Line to its intersection with the Inter-provincial Boundary between Ontario and Manitoba; thence northerly and northeasterly along that boundary to the shore of Hudson Bay; thence easterly, southerly, southeasterly and easterly along the shores of that bay and James Bay to the place of beginning.

##### SCHEDULE 12 — Residents and Non-Residents

October 1, 1963 to January 3, 1964.

Beginning at a point in the Ottawa River being at the inter-section of the boundary between Ontario and Quebec with the easterly production of the southerly boundary of the geographic Township of Burnaby in the Territorial District of



Nipissing; thence westerly along the said easterly production and the southerly boundary of the said geographic Township of Burnaby to the northeasterly corner of the geographic Township of Angus; thence southerly along the easterly boundary of the geographic Township of Angus to the southeasterly corner thereof; thence westerly along the southerly boundaries of the geographic townships of Angus, Flett, Milne, Olive, Torrington and Vogt to the southwesterly corner of the last-mentioned geographic township; thence westerly along the southerly boundary of the geographic Township of Clement a distance of 3 miles; thence north astronomically across the geographic townships of Clement and Scholes to the intersection with the northerly boundary of the last-mentioned geographic township; thence westerly along the northerly boundary of the geographic Township of Scholes to the northwesterly corner thereof; thence westerly along the northerly boundaries of the geographic townships of Afton and Sheppard in the Territorial District of Sudbury to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of the geographic Township of Sheppard to the southwesterly corner thereof; thence westerly along the northerly boundary of the geographic Township of Mackelcan to the northwesterly corner thereof; thence southerly along the westerly boundary of the geographic Township of Mackelcan to the southwesterly corner thereof; thence westerly along the northerly boundaries of the geographic township of Rathbun, Norman, Wisner, Howell, Foy, Harty, Hess, Moncrieff and Craig to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of the geographic Township of Craig to the southwesterly corner thereof; thence westerly along the northerly boundary of geographic Township Tp. 114 to the northwesterly corner thereof; thence westerly along the northerly boundaries of geographic townships A, E, I, M, Q, U, Tp. 1A, Tp. 1B, Tp. 1C, Tp. 1D, Tp. 1E and Tp. 1F in the Territorial District of Algoma to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of geographic Township Tp. 1F to the intersection with the northerly boundary of geographic Township Tp. 195; thence westerly along the northerly boundaries of geographic townships Tp. 195 and Tp. 201 to the northwesterly corner of the last-mentioned geographic township; thence northerly along the easterly boundary of the geographic Township of Curtis and the easterly boundaries of geographic townships Tp. 22, Range 10, Tp. 22, Range 11 and Tp. 22, Range 12 to the northeasterly corner of the last-mentioned geographic township; thence westerly along the northerly boundaries of geographic townships Tp. 22, Range 12 and Tp. 23, Range 12 to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of geographic Township Tp. 23, Range 12 to the northeasterly corner of geographic Township Tp. 24, Range 12; thence westerly along the northerly boundaries of geographic townships Tp. 24, Range 12, Tp. 25, Range 12, Tp. 26, Range 12 and Tp. 27, Range 12 to the northwesterly corner of the last-mentioned geographic township; thence northerly along the easterly boundary of the geographic Township of Palmer to the northeasterly corner thereof; thence westerly along the northerly boundary of that geographic township to the northwesterly corner thereof; thence southerly along the westerly boundaries of the geographic townships of Palmer and Fisher to the southwest corner of the last-mentioned geographic township; thence southerly along the southerly production of the westerly boundary of the geographic Township of Fisher to the intersection with the International Boundary between Canada and the United States of America; thence in a general northwesterly, southwesterly and westerly direction following that international boundary to a point in Saganaga Lake where that international boundary is intersected by the easterly boundary of the Territorial District of Rainy

River; thence northerly along that easterly boundary to the northeasterly corner of that territorial district; thence westerly along the northerly boundary of that territorial district to the intersection with the 7th Meridian; thence northerly along the 7th Meridian in the Territorial District of Kenora to the intersection with the southerly boundary of the geographic Township of MacNicol; thence easterly along the southerly boundaries of the geographic townships of MacNicol, Tustin, and Bridges to the southwesterly corner of the geographic Township of Docker; thence in a northerly direction along the westerly boundaries of the geographic township of Docker and Smellie to the northwesterly corner of the last-mentioned geographic township; thence northerly along the northerly production of the westerly boundary of the geographic Township of Smellie to the intersection with the centre line of the right of way of the most northerly east-west line of the Canadian National Railways; thence westerly along that centre line to the intersection with the boundary between Ontario and Manitoba; thence northerly along that boundary to the intersection with the 11th Base Line; thence easterly along the 11th Base Line to the Wabassi River flowing into the Albany River; thence in a general southerly and easterly direction following that river to the Albany River; thence in a general southeasterly direction along the Albany River to the intersection with the meridian line drawn north astronomically from the northeasterly corner of the geographic Township of Bell in the Territorial District of Thunder Bay; thence south astronomically along that meridian line to the intersection with the centre line of the right of way of the most northerly east-west line of the Canadian National Railways; thence in a general southeasterly direction along that centre line to its intersection with the boundary between Ontario and Quebec; thence southerly along that boundary to the place of beginning.

#### SCHEDULE 13 — Residents and Non-Residents

November 4 to November 30, 1963.

Beginning at a point in the Ottawa River being at the intersection of the boundary between Ontario and Quebec with the easterly production of southerly boundary of the geographic Township of Burnaby in the Territorial District of Nipissing; thence westerly along the said easterly production and the southerly boundary of the said geographic Township of Burnaby to the northeasterly corner of the geographic Township of Angus; thence southerly along the easterly boundary of the geographic Township of Angus to the southeasterly corner thereof; thence westerly along the southerly boundaries of the geographic townships of Angus, Flett, Milne, Olive, Torrington and Vogt to the southwesterly corner of the last-mentioned geographic township; thence westerly along the southerly boundary of the geographic Township of Clement a distance of 3 miles; thence north astronomically across the geographic townships of Clement and Scholes to the intersection with the northerly boundary of the last-mentioned geographic township; thence westerly along the northerly boundary of the geographic Township of Scholes to the northwesterly corner thereof; thence westerly along the northerly boundaries of the geographic townships of Afton and Sheppard in the Territorial District of Sudbury to the northwesterly corner of the last-mentioned geographic township thence southerly along the westerly boundary of the geographic Township of Sheppard to the southwesterly corner thereof; thence westerly along the northerly boundary of the geographic Township of Mackelcan to the northwesterly corner thereof; thence southerly along the westerly boundary of the geographic Township of Mackelcan to the southwesterly corner thereof; thence westerly along the northerly boundaries of the geographic townships of Rathbun, Norman, Wisner, Bowell, Foy, Harty,



Hess, Moncrieff and Craig to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of the geographic Township of Craig to the southwesterly corner thereof; thence westerly along the northerly boundary of the geographic Township Tp. 114 to the northwesterly corner thereof; thence westerly along the northerly boundaries of geographic townships A, E, I, M, Q, U, Tp. 1A, Tp. 1B, Tp. 1C, Tp. 1D, Tp. 1E and Tp. 1F in the Territorial District of Algoma to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of geographic Township Tp. 1F to the intersection with the northerly boundary of geographic Township Tp. 195; thence westerly along the northerly boundaries of geographic townships Tp. 195 and Tp. 201 to the northwesterly corner of the last-mentioned geographic township; thence northerly along the easterly boundary of the geographic Township of Curtis and the easterly boundaries of geographic townships Tp. 22, Range 10, Tp. 22, Range 11, and Tp. 22, Range 12 to the northeasterly corner of the last-mentioned geographic township; thence westerly along the northerly boundaries of geographic townships Tp. 22, Range 12, and Tp. 23, Range 12 to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of geographic Township Tp. 23, Range 12 to the northeasterly corner of geographic Township Tp. 24, Range 12; thence westerly along the northerly boundaries of geographic townships Tp. 24, Range 12, Tp. 25, Range 12, Tp. 26, Range 12 and Tp. 27, Range 12 to the northwesterly corner of the last-mentioned geographic township; thence northerly along the easterly boundary of the geographic Township of Palmer to the northeasterly corner thereof; hence westerly along the northerly boundary of that geographic township to the northwesterly corner thereof; thence southerly along the westerly boundaries of the geographic townships of Palmer and Fisher to the southwesterly corner of the last-mentioned geographic township; thence southerly along the southerly production of the western boundary of the geographic Township of Fisher to the intersection with the International Boundary between Canada and the United States of America; thence in a general southeasterly direction along the last-mentioned boundary through Lake Superior and the St. Mary River to a point in that boundary due south of the intersection of the boundary between the geographic townships of Parke and Awenge in the Territorial District of Algoma with the northerly shore of the St. Mary River; thence due north to that northerly shore; thence in a general easterly direction following the northerly shores of the St. Mary River, the expansions thereof and the North Channel of Georgian Bay of Lake Huron to the southwesterly corner of the geographic Township of Spragge in the said Territorial District of Algoma; thence northerly along the westerly boundary of that geographic township to the intersection with the centre line of that part of the King's Highway known as No. 17; thence northeasterly, southeasterly and easterly following that centre line to the intersection with the centre line of the Canadian Pacific Railway in the Town of Mattawa; thence northerly along that centre line to the intersection with the boundary between Ontario and Quebec; thence northerly along that boundary to the place of beginning.

#### SCHEDULE 14 — Residents Only

October 1, 1963 to January 3, 1964.

Beginning at a point in Saganaga Lake where the International Boundary between Canada and the United States of America is intersected by the easterly boundary of the Territorial District of Rainy River; thence northerly along the

easterly boundary to the northeasterly corner of the said Territorial District of Rainy River; thence westerly along the northerly boundary of the territorial district to the intersection with the 7th Meridian; thence northerly along the 7th Meridian in the Territorial District of Kenora to the intersection with the southerly boundary of the geographic Township of MacNicol; thence easterly along the southerly boundaries of the geographic townships of MacNicol, Tustin and Bridges to the southwesterly corner of the geographic Township of Docker; thence in a northerly direction along the westerly boundaries of the geographic townships of Docker and Smellie to the northwesterly corner of the last-mentioned geographic township; thence northerly along the northerly production of the westerly boundary of the geographic Township of Smellie to the intersection with the centre line of the right of way of the most northerly east-west line of the Canadian National Railways; thence westerly along that centre line to the intersection with the boundary between Ontario and Manitoba; thence southerly along that boundary to the intersection with the International Boundary between Canada and the United States of America; thence southeasterly along that international boundary to the intersection with the boundary between the territorial districts of Kenora and Rainy River; thence easterly along the northerly boundary of the Territorial District of Rainy River 15 miles, more or less, to the intersection with the easterly shore of the Lake of the Woods; thence northeasterly along that easterly shore to the intersection with the northerly limit of Concession II in the geographic Township of Morson in the Territorial District of Rainy River; thence easterly along that northerly limit to the intersection with the easterly boundary of the geographic Township of Morson; thence southerly along that easterly boundary to the southeasterly corner of that geographic township; thence easterly along the northern boundaries of the geographic townships of Dewart, Rowe and Menary to the northeasterly corner of the last-mentioned geographic township; thence southerly along the easterly boundary of the geographic Township of Menary to the southeasterly corner thereof; thence easterly along the northerly boundaries of the geographic townships of Potts and Fleming to the intersection with the centre line of the waters of Burditt Lake; thence in a southeasterly direction along that centre line to and along the centre line of the channel of the Manomin River to the intersection with the westerly limit of Indian Reserve No. 17B; thence northerly along that westerly limit to the northwesterly corner of that Indian reserve; thence easterly along the northerly limit of that Indian reserve to the northeasterly corner thereof; thence southerly along the easterly limit of that Indian reserve to the intersection with the centre line of the waters of Manomin Lake; thence in a northeasterly and easterly direction following that centre line to and along the centre line of the body of water connecting Manomin Lake and Lake Despair to the centre line of the last-mentioned lake; thence in a northeasterly and northerly direction following the centre line of the waters of Lake Despair to the intersection with the westerly production of the centre of the channel of a stream between Lake Despair and Footprint Lake; thence in a northeasterly direction following that westerly production and the centre line of that stream and its easterly production to the intersection with the centre line of the waters of Footprint Lake; thence in a general southeasterly direction following the centre line of the last-mentioned waters to the intersection with the northerly limit of Indian Reserve No. 17A; thence easterly along that northerly limit to the northeasterly corner of said Indian Reserve No. 17A; thence southerly along the easterly limit of that Indian reserve to the highwater mark of Northwest Bay of Rainy Lake; thence southeasterly in a straight line to the intersection with the centre line of the channel of Camp Narrows; thence in a southeasterly direction following the last-mentioned



centre line to the intersection of the centre line of the waters lying adjacent to and northerly of Shelter Bay, Browns Inlet and the most northeasterly point of the geographic township of Griesinger; thence in a southeasterly and northeasterly direction following the centre line of the last-mentioned waters to the mid point of the waters lying between Hangingstone Point on the most northeasterly point of the geographic Township of Griesinger and the small island lying northeasterly thereof and patented as locations G. 113 and G. 114; thence southeasterly in a straight line to the most southwesterly projection of Tug Point on Cheery Island in Rainy Lake; thence south astronomically to the intersection with the International Boundary between Canada and the United States of America; thence easterly, southerly and southeasterly following that international boundary through Rainy Lake and the several lakes, rivers and portages to the place of beginning.

#### SCHEDULE 15 — Residents only

November 4, to November 16, 1963.

1. The Territorial District of Parry Sound.

2. The Territorial District of Muskoka except those parts of the geographic township of Medora and Wood lying east of the centre line of the right of way of the Canadian National Railways and north of the line between concessions XV and XVI in the geographic Township of Wood.

3. The part of the Territorial District of Nipissing lying southerly of a line described as follows:

Beginning at the intersection of the westerly boundary of the territorial district with the centre line of that part of the King's Highway known as No. 17; thence easterly along that centre line to the intersection in the Town of Mattawa with the centre line of the right of way of the Canadian Pacific Railway Company; thence northerly along that right of way to the easterly boundary of the territorial district.

4. The part of the Territorial District of Sudbury lying southerly of that part of the King's Highway known as No. 17.

5. The part of the Territorial District of Algoma lying southerly and southeasterly of the part of the King's Highway known as No. 17 between the westerly boundary of the geographic Township of Spragge and the easterly boundary of the territorial district.

6. The Territorial District of Manitoulin.

7. The Provisional County of Haliburton.

8. The County of Renfrew.

9. The townships of Mara and Rama in the County of Ontario.

10. The Township of Somerville and those parts of the townships of Dalton and Laxton, Digby and Longford lying north of the Monk Road in the County of Victoria.

11. Those parts of the counties of Frontenac, Hastings, Lennox and Addington and Peterborough lying north of that part of the King's Highway known as No. 7.

12. That part of the County of Lanark lying northerly and easterly of a line described as follows:

Beginning at the intersection of the westerly boundary of the county and the centre line of that part of the King's Highway known as No. 7; thence easterly along that centre line to the intersection with the centre line of that part of the King's Highway known as No. 43; thence easterly along that centre line to the intersection with the centre line of that part of the King's Highway known as No. 29; thence southerly along that centre line to the southerly boundary of the county; thence easterly to the easterly boundary of the county.

## DEER

### SCHEDULE 1 — Residents and Non-Residents

September 23 to September 30, 1963. (Bows and Arrows only)

October 1, 1963 to January 3, 1964.

Beginning at the southeasterly corner of the Territorial District of Kenora; thence northerly along the easterly boundary of that territorial district to the intersection with the middle of the main channel of Lake St. Joseph; thence northerly along the northerly production of the easterly boundary of the Territorial District of Kenora to the intersection with the 11th Base Line; thence westerly along the 11th Base Line to the intersection with the boundary between Ontario and Manitoba; thence southerly along that boundary to the intersection with the southerly boundary of the Territorial District of Kenora; thence easterly along that southerly boundary to the place of beginning.

### SCHEDULE 2 — Residents and Non-Residents

October 1 to December 14, 1963.

That part of Ontario, except the parts described in schedule 1 and 3, lying north of a line described as follows:

Beginning at a point in the northerly shore of Lake Timiskaming, being at the easterly boundary of the geographic Township of Harris; thence in a westerly southerly, northerly and westerly direction along that northerly shore to the intersection with the southerly boundary of the geographic Township of Dymond; thence westerly along the southerly boundaries of the geographic townships of Dymond, Hudson, Lundy, Auld, Speight, Banks and Wallis to the southwesterly corner of the last-mentioned geographic township; thence southerly along the easterly boundary of the geographic townships of Brewster and Gamble to the southeasterly corner of the last-mentioned geographic township; thence westerly along the southerly boundary of the geographic Township of Gamble to the southwesterly corner thereof; thence southerly along the easterly boundary of the geographic Township of Ellis in the Territorial district of Sudbury to the south-easterly corner thereof; thence westerly along the southerly boundaries of the geographic townships of Ellis, McLeod, Stull, Unwin, Hodgetts, Beulah, Blewett, Brebeuf, Paudash, Chalet, Tp. 9, Margaret, Elizabeth, Abney, Hubbard, Tp. 8Z, Tp. 8A, Tp. 8B, Tp. 8C, Tp. 8D, Tp. 8E, Tp. 8F, Tp. 8G, Tp. 8H, Tp. 22, Range 15 and Tp. 23, Range 15 to the southwesterly corner of the last-mentioned

geographic township; thence southerly along the easterly boundary of geographic Township Tp. 24, Range 15 in the Territorial District of Algoma to the south-easterly corner thereof; thence westerly along the southerly boundaries of the geographic townships Tp. 24, Range 15, Tp. 25, Range 15, Tp. 26, Range 15, Home, Tp. 28, Range 15, Tp. 29, Range 15, to the southwesterly corner of the last-mentioned township; thence west astronomically to the International Boundary between Canada and the United States of America; thence in a general north-westerly direction along that international boundary to the intersection with the boundary between Ontario and Manitoba.

### SCHEDULE 3 — Residents and Non-Residents

November 1 to December 5, 1963.

Beginning at the intersection of the International Boundary between Canada and the United States of America with the boundary between the territorial districts of Kenora and Rainy River; thence easterly along the northerly boundary of the Territorial District of Rainy River 15 miles, more or less, to the intersection with the easterly shore of the Lake of the Woods; hence northeasterly along that easterly shore to the intersection with the northerly limit of Concession II in the geographic Township of Morson in the Territorial District of Rainy River; thence easterly along that northerly limit to the intersection with the easterly boundary of the geographic Township of Morson; thence southerly along that easterly boundary to the southeasterly corner of that geographic township; thence easterly along the northerly boundaries of the geographic townships of Dewart, Rowe and Menary to the northeasterly corner of the last-mentioned geographic township; thence southerly along the easterly boundary of the geographic Township of Menary to the southeasterly corner thereof; thence easterly along the northerly boundaries of the geographic townships of Potts and Fleming to the intersection with the centre line of the waters of Burditt Lake; thence in a southeasterly direction along that centre line to and along the centre line of the channel of the Manomin River to the intersection with the westerly limit of Indian Reserve No. 17B; thence northerly along that westerly limit to the northwesterly corner of that Indian reserve; thence easterly along the northerly limit of that Indian reserve to the northeasterly corner thereof; thence southerly along the easterly limit of that Indian reserve to the intersection with the centre line of the waters of Manomin Lake; thence in a northeasterly and easterly direction following that centre line to and along the centre line of the body of water connecting Manomin Lake and Lake Despair to the centre line of the last-mentioned lake; thence in a northeasterly and northerly direction following the centre line of the waters of Lake Despair to the intersection with the westerly production of the centre of the channel of a stream between Lake Despair and Footprint Lake; thence in a northeasterly direction following that westerly production and the centre line of that stream and its easterly production to the intersection with the centre line of the waters of Footprint Lake; thence in a general southeasterly direction following the centre line of the last-mentioned waters to the intersection with the northerly limit of Indian Reserve No. 17A; thence easterly along that northerly limit to the northeasterly corner of that Indian reserve; thence southerly along the easterly limit of that Indian reserve to the high-water mark of Northwest Bay of Rainy Lake; thence southeasterly in a straight line to the intersection with the centre line of the channel of Camp Narrows; thence in a southeasterly direction following the last-mentioned centre line to the intersection of the centre line of the waters lying



adjacent to and northerly of Shelter Bay, Browns Inlet and the most northeasterly point of the geographic Township of Griesinger; thence in a southeasterly and northeasterly direction following the centre line of the last-mentioned waters to the mid point of the waters lying between Hangingstone Point on the most northeasterly point of the geographic Township of Griesinger and the small island lying northeasterly thereof and patented as locations G. 113 and G. 114; thence southeasterly in a straight line to the most southwesterly projection of Tug Point on Cheery Island in Rainy Lake; thence south astronomically to the intersection with the International Boundary between Canada and the United States of America; thence in a southwesterly and northwesterly direction along that international boundary to the place of beginning.

#### SCHEDULE 4 — Residents and Non-Residents

November 4 to November 16, 1963.

1. The parts of the territorial districts of Algoma, Sudbury and Timiskaming lying southerly of the line described in Schedule 2 except the geographic townships of Hilton, Jocelyn and St. Joseph in the Territorial District of Algoma.

2. The Territorial District of Parry Sound.

3. The Territorial District of Muskoka except those parts of the geographic townships of Medora and Wood lying east of the centre line of the right of way of the Canadian National Railways and north of the line between concessions XV and XVI in the geographic Township of Wood.

4. The Territorial District of Nipissing.

5. The Territorial District of Manitoulin.

6. The Provisional County of Haliburton.

7. The County of Renfrew.

8. The townships of Rama and Mara in the County of Ontario.

9. The Township of Somerville and those parts of the townships of Dalton and Laxton, Digby and Longford lying north of the Monk Road in the County of Victoria.

10. Those parts of the counties of Frontenac, Hastings, Lennox and Addington and Peterborough lying north of that part of the King's Highway known as No. 7.

11. That part of the County of Lanark lying northerly and easterly of a line described as follows:

Beginning at the intersection of the westerly boundary of the county and the centre line of that part of the King's Highway known as No. 7; thence easterly along that centre line to the intersection with the centre line of that part of the King's Highway known as No. 43; thence easterly along that centre line to the intersection with the centre line of that part of the King's Highway known as No. 29; thence southerly along that centre line to the southerly boundary of the county; thence easterly to the easterly boundary of the county.



## SCHEDULE 5 — Residents and Non-Residents

November 11 to November 16, 1964. (No Dogs)

The geographic townships of Hilton, Jocelyn and St. Joseph in the Territorial District of Algoma.

## SCHEDULE 6 — Residents and Non-Residents

November 4 to November 9, 1963.

1. The townships of Albemarle, Amabel, Eastnor, Lindsay and St. Edmunds in the County of Bruce. (No Dogs)

2. That part of the County of Carleton lying west of the Rideau River.

3. Those parts of the counties of Frontenac, Hastings and Lennox and Addington lying between that part of the King's Highway known as No. 7 and that part of the King's Highway known as No. 2.

4. The County of Grenville.

5. That part of the County of Peterborough lying south of that part of the King's Highway known as No. 7.

6. That part of the County of Lanark lying southerly and westerly of the line described in paragraph 11 of Schedule 4.

7. That part of the County of Leeds lying westerly and northerly of a line described as follows:

Beginning at the intersection of the production southerly of the centre line of that part of the King's Highway known as No. 32 and the International Boundary between Canada and the United States of America; thence northerly along that production and that centre line to the intersection with the centre line of that part of the King's Highway known as No. 15; thence northerly along that centre line to the intersection with the centre line of that part of the King's Highway known as No. 42; thence westerly along that centre line to the intersection with the production southerly of the centre line of the County Road known as Narrow Locks Road; thence northerly along that production and that centre line to the easterly boundary of the county.

## SCHEDULE 7 — Residents and Non-Residents.

November 4 to November 7, 1963. (Shotguns only)

1. That part of the County of Carleton lying east of the Rideau River.

2. The United Counties of Prescott and Russell.

3. The United Counties of Stormont, Dundas and Glengarry.

4. The County of Leeds except that part described in paragraph 7 of Schedule 6.

## SCHEDULE 8 — Residents and Non-Residents.

October 21 to November 2, 1963. (Bows & Arrows Only)

1. The islands in the Territorial District of Manitoulin excepting therefrom those islands known as Cockburn and Philip Edward.

2. The townships of Eastnor and St. Edmunds in the County of Bruce.
3. In the Township of Oxford in the County of Grenville and described as follows:

Beginning at the southwesterly angle of Lot 27 in Concession I; thence northerly along the westerly limit of that lot to the intersection with the production westerly of the southerly limit of the travelled road along the southerly limit of a golf course occupying the northerly part of Lot 27 in Concession I; thence easterly along that production and the southerly limit of that travelled road to the easterly limit of said Lot 27; thence northerly along the easterly limit of that lot to the northerly limit of a plan registered in the Registry Office for the County of Grenville as No. 16 for the Township of Oxford; thence easterly along the northerly limit of that plan to the line between the east and west halves of Lot 28 in Concession I; thence northerly along that line to a point therein distant 166 feet measured southerly thereon from the high-water mark on the southerly shore of the Rideau River and Rideau Canal; thence easterly and perpendicular to the line between the east and west halves of Lot 28 a distance of 450 feet; thence northerly parallel to the line between the east and west halves of Lot 28 to the high-water mark on the southerly shore of the Rideau River and Rideau Canal; thence in a general easterly direction following that high-water mark to a point therein distant 300 feet measured easterly and perpendicular to the westerly limit of Lot 29 in Concession I; thence southerly and parallel to the westerly limit of Lot 29 a distance of 120 feet; thence easterly and perpendicular to the westerly limit of Lot 29 a distance of 120 feet; thence northerly and parallel to the westerly limit of Lot 29 a distance of 120 feet, more or less, to the high-water mark along the southerly shore of the Rideau River and Rideau Canal; thence in a general easterly direction to the intersection with a line drawn parallel to the line between the east and west halves of Lot 29 in Concession I; thence southerly along that parallel line to a point distant 150 feet measured westerly and perpendicular to the line between the east and west halves of Lot 29 from a point therein distant 150 feet measured southerly thereon from the high-water mark on the southerly shore of the Rideau River and Rideau Canal; thence easterly and perpendicular to the line between the east and west halves of Lot 29 a distance of 250 feet; thence northerly parallel to the line between the east and west halves of Lot 29 to the intersection with the high-water mark on the southerly shore of Rideau River and Rideau Canal; thence in a general easterly direction following that high-water mark to the confluence with the high-water mark on the westerly shore of Kemptville Creek; thence in a general southerly direction following that high-water mark to the intersection with the northwesterly limit of the southeasterly 100 acres of Lot 30 in Concession I; thence westerly along that limit to a point in the easterly limit of Lot 29 in Concession I; thence southerly along that limit to the intersection with the high-water mark on the westerly shore of Kemptville Creek; thence in a general southerly direction following that high-water mark to the intersection with the southerly limit of Lot 28 in Concession II; thence westerly along the southerly limit of lots 28 and 27 to the southeasterly angle of Lot 26 in Concession II; thence northerly along the easterly limit of that lot 540 feet; thence westerly in a straight line to a point in the easterly limit of that part of the King's Highway known as No. 16 and which said point is distant 499 feet measured northerly along that limit from the southerly limit of Lot 26; thence northerly along the easterly limit of that highway to the line between concessions I and II; thence westerly along the line between concessions I and II to the place of beginning.

## SCHEDULE 9 — Residents and Non-Residents

November 1 to December 31, 1963.

That part of the Township of Keppel in the Conty of Grey known as Griffiths Island.

## SCHEDULE 10 — Residents and Non-Residents

October 14 to November 11, 1963.

The island in Lake Ontario east of the Township of South Marysburgh in the County of Prince Edward known as Main Duck Island

## SCHEDULE 16 — Residents and Non-Residents

November 4 to November 6, 1963.

1. That part of the Township of Matchedash in the County of Simcoe, composed of:

- (a) lots 20 to 23, both inclusive, in Concession II;
- (b) lots 19 to 27, both inclusive, in Concession III;
- (c) lots 15 to 27, both inclusive, in Concession IV;
- (d) lots 17 to 27, both inclusive, in Concession V;
- (e) lots 15 to 26, both inclusive, in Concession VI;
- (f) lots 9 to 21, both inclusive, in Concession VII;
- (g) lots 3 to 18, both inclusive, in Concession VIII;
- (h) lots 1 to 16, both inclusive, in Concession IX;
- (i) lots 1 to 11, both inclusive, in Concession X;
- (j) lots 1 to 10, both inclusive, in Concession XI;
- (k) lots 1 to 6, both inclusive, in Concession XII; and
- (l) lots 1 to 4, both inclusive, in Concession XIII.

2. The United Counties of Northumberland and Durham, except the Township of Hope.

3. The County of Bruce, except the townships of Albemarle, Amabel, Eastnor, Lindsay and St. Edmunds, and the County of Grey.

## CARIBOU

No open season.

## BEAR

September 2, 1963 to June 30, 1964—Throughout Ontario.

## HUNGARIAN PARTRIDGE

October 5 to November 23, 1963—in the counties of Brant, Bruce, Dufferin, Elgin, Essex, Grey, Haldimand, Halton, Huron, Kent, Lambton, Lincoln, Middlesex, Norfolk, Oxford, Perth, Waterloo, Welland, Wellington and Wentworth.

September 21 to November 23, 1963—in any other part of Ontario. Bag limit—8 per day. Possession limit—16.

## PHEASANTS

8.00 a.m. to 5.00 p.m.

1. October 16 to November 2, 1963 in the counties of Brant, Dufferin, Elgin, Haldimand, Halton, Lambton, Middlesex, Norfolk, Oxford, Peel, Perth, Waterloo, Wellington and York, and in the townships of Hay, Stephen and Usborne in the County of Huron, and in the townships of Camden, Chatham, Dover, Howard, Orford and Zone in the County of Kent, and in the townships of Pickering, Reach, Scott, Uxbridge, East Whitby and Whitby, in the County of Ontario, and in the townships of Adjala, Essa, Innisfil, Tecumseth, Tosorontio and West Gwillimbury in the County of Simcoe, and in the townships of Beverly, East Flamborough and West Flamborough in the County of Wentworth.

2. From October 26 to November 2, 1963 in the County of Essex, except in the Township of Pelee, and in townships of Harwich, Raleigh, Romney and Tilbury in the County of Kent.

3. October 26 to November 9, 1963 in the counties of Lincoln and Welland in the townships of Ancaster, Barton, Binbrook, Glanford and Saltfleet in the County of Wentworth.

4. October 5 to October 26, 1963 in the townships of Clarke and Darlington in the County of Durham.

5. October 5 to November 2, 1963 in any parts of Ontario except in the Township of Pelee in the County of Essex and except in the area described in clauses 1, 2, 3 and 4.

Bag Limit in clauses 1, 2 and 3—3, not more than one of which shall be a hen.

Bag Limit in clauses 4 and 5—3 per day.

6. October 31 to November 1, 1963 in the Township of Pelee in the County of Essex.

Bag Limit—9 cocks and 2 hens.

## RUFFED GROUSE, SHARPTAILED GROUSE, SPRUCE PARTRIDGE AND PTARMIGAN

1. Sharptailed Grouse and Ptarmigan:  
September 14, 1963 to March 31, 1964.  
Ruffed Grouse and Spruce Grouse  
September 14 to December 14, 1963.

In the territorial districts of Cochrane and Timiskaming and that part of the Territorial District of Kenora lying north of the 11th Base Line.

2. September 14 to December 14, 1963—All species.

That part of Ontario described in Schedule 1.

3. October 5 to December 14, 1963—All species.  
In the counties of Brant, Bruce, Dufferin, Elgin, Essex, Grey, Haldimand, Halton, Huron, Kent, Lambton, Lincoln, Middlesex, Norfolk, Oxford, Perth, Waterloo, Welland, Wellington and Wentworth, and in the townships of Clarke and Darlington in the County of Durham.



4. September 21 to December 14, 1963—All species.  
In the remainder of Ontario.

## BAG LIMITS

Ruffed Grouse and Spruce Grouse—  
5 per day in the aggregate, in possession—15 in the aggregate.  
Sharptailed Grouse—  
5 per day, in possession 15.  
Ptarmigan—  
5 per day, in possession 15.

## BOBWHITE QUAIL

October 30, 1963 only—in the Township of Raleigh in the County of Kent and in the Township of Plympton in the County of Lambton.

Bag limit and Possession limit—5 quail.

## RABBIT

1. December 24, 1963 to February 29, 1964  
In the Township of Pelee in the County of Essex.

2. October 5, 1963 to February 29, 1964.  
In the townships of Clarke and Darlington in the County of Durham.

3. October 16, 1963 to February 29, 1964  
In the counties of Brant, Dufferin, Elgin, Haldimand, Halton, Lambton, Middlesex, Norfolk, Oxford, Peel, Perth, Waterloo, Wellington and York. In the townships of East Whitby, Pickering, Reach, Scott, Uxbridge and Whitby in the County of Ontario. In the townships of Adjala, Essa, Innisfil, Tecumseth, Tosorontio and West Gwillimbury in the County of Simcoe. In the townships of Hay, Stephen and Usborne in the County of Huron. In the townships of Beverly, East Flamborough and West Flamborough in the County of Wentworth, and in the townships of Camden, Chatham, Dover, Howard, Orford and Zone in the County of Kent.

4. October 26, 1963 to February 29, 1964.  
In the County of Essex, except the Township of Pelee, and the counties of Lincoln and Welland; the townships of Harwich, Raleigh, Romney and Tilbury in the County of Kent; the townships of Ancaster, Barton, Binbrook, Glanford and Saltfleet in the County of Wentworth.

5. September 2, 1963 to March 31, 1964.  
In the counties of Bruce, Carleton, Dundas, Durham, except in the townships of Clarke and Darlington in the County of Durham, Frontenac, Glengarry, Grenville, Grey, Hastings, Huron, except in the townships of Hay, Stephen and Usborne in the county of Huron, Lanark, Leeds, Lennox and Addington, Northumberland, Peterborough, Prescott, Prince Edward, Russell, Stormont and Victoria; the townships of Flos, Matchedash, Medonte, Nottawasaga, Orillia, Oro, Sunnidale, Tay, Tiny and Vespra in the County of Simcoe and in the townships of Brock, Mara, Thorah and Rama in the County of Ontario.

6. September 2, 1963 to August 31, 1964.  
The remainder of Ontario.  
Bag limit on cottontail rabbits only—6 per day.

## RACCOON AND FOX

September 1, 1963 to September 30, 1964. Throughout Ontario.

## SQUIRRELS (BLACK, GREY, FOX)

1. October 26 to December 14, 1963.

In the County of Essex.

2. October 5 to December 14, 1963.

In the counties of Brant, Bruce, Dufferin, Elgin, Grey, Haldimand, Halton, Huron, Kent, Lambton, Lincoln, Middlesex, Norfolk, Oxford, Perth, Waterloo, Welland, Wellington and Wentworth.

3. September 21 to December 14, 1963—remainder of Ontario.

Bag limit—10 per day. Possession limit—10.

## MIGRATORY BIRDS

### DUCKS, RAILS, COOTS, GALLINULES, WILSON'S SNIPE, GEESE, WOODCOCK

September 14 to December 14—All Species—In the Northern District.

September 21 to December 14—All Species—In the Central District.

October 5 to December 14—All Species—11:00 a.m. EST for all species except Woodcock—In the Southern District.

October 5 to December 14—11:00 a.m. EST—All species except Geese.

November 1 to December 31—Geese.

In the township of Anderdon, Malden, Colchester North, Colchester South, Gosfield North, Gosfield South and Mersea in Essex County.

The Northern District of Ontario comprises the Territorial Districts of Kenora, Patricia, Rainy River, Thunder Bay, Cochrane and Timiskaming, and those portions of Algoma, Sudbury and Nipissing lying northerly of Highway 17 between Mattawa and Spragge, a line from Highway 17 in Spragge to the angle in the International Boundary north of Cockburn Island, and the westerly continuation of the International Boundary.

The Southern District of Ontario comprises the Counties of Brant, Bruce, Dufferin, Elgin, Grey, Haldimand, Halton, Huron, Kent, Lambton, Lincoln, Middlesex, Norfolk, Oxford, Perth, Waterloo, Welland, Wellington and Wentworth; and the Townships of Sandwich East, Sandwich South, Sandwich West, Maidstone, Rochester, Tilbury North and Tilbury West in Essex County.

The Central District of Ontario comprises all that part of the Province which is not included in the Townships of Anderdon, Malden, Colchester North, Colchester South, Gosfield North, Gosfield South and Mersea in Essex County, or in the Northern and Southern Districts.

Bag limit—Ducks—5 per day, 10 in possession, none of which shall be a canvas-back or redhead. Not more than two wood ducks may be taken in the daily limit. After October 27, two additional scaup or goldeneye may be taken per day. Mergansers are not counted in the daily bag or possession limit.

Geese—5 per day, 10 in possession.

Rails, Coots and Gallinules—5 per day, 10 in possession.

Wilson's Snipe—8 per day, 16 in possession.

Woodcock—8 per day, 16 in possession.

Persons resident more than 25 miles from James Bay may not kill more than 15 geese within 25 miles of James Bay during the 1963 season.

Migratory game birds may be hunted with shotguns not larger than 10 gauge, or with a bow and arrow. Rifles must not be used.

## FUR FARMING 1963

In early fall it was common knowledge that the mink pelt market would open in December with strong demands for Standard Dark and Pastel mink. Both manufacturers' and retailers' supplies of these types were depleted and fur dealers and brokers were unusually active in visiting ranches with a view to alleviating the shortage.

The December sales opened with Standard Darks bringing 15% to 20% above last year's prices and the Pastels advancing 10% to 15%. Clearances of these types in all December sales ran from 90% to 100%.

Buyers attendance at these sales was excellent with one house registering 200 North American and foreign buyers at one sale. Owing to the shortage of Darks and Pastels at the manufacturing level, the American and Canadian buyers were determined to replenish these supplies and were forced to outbid very active competition from European buyers who helped create the shortage by their spirited bidding last year.

While there was a sustained demand for the Darks and Pastel types throughout the season, buyer interest extended over the entire colour range of mink. Particular interest was shown in Violet, Lavender and Hope with good clearances at prices up to 10% over last season. Gun Metal, Sapphires, Pearls and Whites sold at prices unchanged to 5% above last year's levels. By early March, there was a noticeable decrease in the volume of pelts offered on the Canadian sales and it was estimated that 90% of the 1963 Canadian ranch mink crop had been sold.

It is almost incredible to think that the Canadian production of ranch mink which approximated the 1,300,000 mark for 1963 should be virtually sold in the first 3½ months of the selling season. This no doubt is due in part to the natural beauty and variety of colours in which ranch mink is available, but it also points up the creditable job being done through advertising mink by Canada Mink Breeders and the other national mink association which creates the desire for mink. There is no doubt that mink dominates the entire Fur Trade as it has for the past decade or more. Its long tenure as the top fashion fur is without parallel in Fur Trade history.

It is estimated that the trimming trade purchased approximately six million mink pelts during the season. This is a substantial portion of the world production which is estimated between 16 and 17 million pelts. This use of mink is an important factor in absorbing large quantities of unlabelled pelts and stabilizing prices of the better quality pelts. The importance of the trimming trade is recognized by the major Mink Breeders Associations of the world who are considering ways of stimulating interest and preserving the demand for mink from this segment of the trade.

Canada Mink Breeders in addition to the \$225,000 allotted to advertising and promotion for this year has levied a \$.01 per pelt deduction from the sale of members' pelts for research purpose. It is hoped that the sum of \$10,000 will be collected from this source and will be available in the form of grants to leading research stations for mink research projects.

The Ontario Fur Breeders Association held 12 regular Directors meetings as well as the Annual Meeting of the members, a winter short course, a field day

and a live mink show. Three Delegates represented the Association at the Annual Meeting of Canada Mink Breeders.

Eleven cases of Distemper and 15 cases of Plasmacytosis (Aleutian Disease) were diagnosed at the Ontario Veterinary College from specimens of mink supplied by Ontario ranchers. While Distemper may be controlled by preventative inoculation no effective precaution or treatment is known for Plasmacytosis.

A total of 506 Fur Farmer's Licenses were issued in 1963. Of these, 455 were renewals of previous licenses, 50 were for newly established ranches and one license was issued with retroactive provisions to legalize the operation of an unlicensed ranch during the previous year.

The following table shows the location by County or District, of Licensed Fur Farms in 1963.

County or District	Number
Algoma .....	1
Brant .....	11
Bruce .....	23
Cochrane .....	1
Dufferin .....	5
Durham .....	10
Elgin .....	4
Essex .....	11
Frontenac .....	3
Grenville .....	4
Grey .....	23
Haldimand .....	9
Haliburton .....	1
Halton .....	28
Hastings .....	1
Huron .....	10
Kenora .....	4
Kent .....	13
Lambton .....	2
Lanark .....	5
Leeds .....	3
Lincoln .....	24
Manitoulin .....	5
Muskoka .....	2
Middlesex .....	21
Nipissing .....	4
Norfolk .....	13
Northumberland .....	1
Ontario .....	16
Oxford .....	17
Parry Sound .....	5
Peel .....	7
Perth .....	41
Peterborough .....	1
Rainy River .....	3
Simcoe .....	30
Sudbury .....	2
Thunder Bay .....	8
Victoria .....	4
Waterloo .....	22
Welland .....	16
Wellington .....	39
Wentworth .....	26
York .....	26
<b>TOTAL .....</b>	<b>505</b>



## SUMMARY OF BREEDING STOCK

Licensed Fur Farms, January 1st

	1959	1960	1961	1962	1963
<b>Other Animals</b>					
Beaver (Pens) .....	1	1	1	0	2
Beaver (S.C.) .....	0	0	0	0	0
Fisher .....	2	2	1	1	4
Lynx .....	0	0	0	0	0
Marten .....	89	96	97	78	33
Muskrat (Pens) .....	0	0	0	0	10
Muskrat (S.C.) .....	0	0	0	0	0
Otter .....	0	0	0	0	0
Raccoon .....	24	22	20	13	8
Skunk .....	3	3	3	4	2
<b>Fox</b>					
Blue Fox .....	83	94	97	57	48
Silver Fox* .....	178	292	212	130	123
Platinum and Pearl .....					
Platinum Fox .....	232	280	367	355	270
Other Fox** .....	13	14	9	1	1
<b>Mink</b> .....	130294	142600	154626	164901	178814

\*Includes Standard and White Marked Fox

\*\*Includes Cross, Red, and White Fox

## COLOUR TYPE OF PELTS TAKEN FROM MINK DURING 1963

<b>DARK AND HALF BLOOD DARK MINK</b> , including Blufrost and Demi Buff .....	71,472
<b>GREY TYPE</b> such as Silverblu, or Platinum, Sage, Opaline, B.O.S., Stewarts and Homos .....	23,746
<b>DARK BLUE TYPE</b> such as Aleutian, Blue Iris, Steelblu, B.O.S., Stewarts and Homos .....	17,841
<b>LIGHT BLUE TYPE</b> such as Sapphire, Winterblu, Eric, Violet, B.O.S., Stewarts and Homos .....	59,465
<b>BROWN TYPE</b> such as Pastel, Topaze, Ambergold, Buff, Dawn, Orchid, Capucine, B.O.S., Stewarts and Homos .....	195,843
<b>BEIGE TYPE</b> such as Palomino, Pearl, Lavender, Hope, Fawn, B.O.S., Stewarts and Homos .....	55,862
<b>WHITE TYPE</b> , including 95% White .....	8,437
<b>TOTAL PELTS</b> .....	432,666

## FIELD SERVICES

Conservation officers of the Department have the primary responsibility of making the fish and wildlife management plan effective in the field. While formerly they spent most of their time on law enforcement, today they must accept responsibility over a much broader field of endeavour. In addition to law enforcement duties, a conservation officer must participate in the biological aspects of wildlife management. For this, an adequate educational background is essential. A candidate for the job of conservation officer must be 21 years of age, having Grade 12 education and a certificate, obtained at his own expense, from the Ontario Forest Ranger School one year course, or its equivalent. Usually, recruitment is from the ranks of Forest Rangers who hold these qualifications, which permits an assessment of the suitability of the individual for the exacting duties he will perform as a conservation officer.

The Forest Ranger School curriculum includes general forestry, forest protection, cruising, surveying, drafting, principles of fish and wildlife biology and mangement, silviculture, soil science, road construction and other items. This broad

and intensive background training prepares a man for a wide range of Departmental duties. When he becomes a conservation officer his responsibilities will include law enforcement, biological surveys of lakes, planting fish, participating in the creel census, evaluating wildlife habitat, assessing deer wintering grounds and measuring degree of browsing, conducting aerial moose surveys and grouse drumming counts, attending meetings of fish and game clubs, operating wildlife check stations, assessing and recommending applications for bait fish and commercial fishing licences, sampling commercial fishing catches, sealing fur, collecting deer and moose jaws for age studies, assigning traplines, issuing trapping licenses, providing hunter safety training, visiting schools with a conservation message, reading fish scales to determine their age, report writing and many other duties. In addition, he must, in many areas, participate in forest fire suppression and undertake such duties as provincial land tax assessments of summer cottages, scaling saw logs or pulpwood and other tasks as they are assigned. While he co-operates by accepting responsibilities from time to time which are outside of the direct fish and wildlife category, he enjoys co-operation from other staff.

The collection of scientific data by conservation officers under the guidance of Department Biologists very often leads to improvements in, or to the creation of, new regulations. To make these effective, a high standard of law enforcement is essential. Many field duties are seasonal and this is also true of poaching. Thus the conservation officer can plan his time to deal efficiently with critical problems as they arise. Duck baiting, fish spearing and mid-summer deer hunting (usually done at night) require a high priority. Creel census and game bag census go along well with the extensive type of patrols of the open seasons. Experience shows that most sportsmen find this type of checking interesting and informative from their own point of view.

The conservation officer staff, which includes field supervisors and fisheries and wildlife management officers as well, increased to 233 officers during the fiscal year. The law enforcement program increased in efficiency too, as indicated by the greater number of seizures and convictions shown for 1963-64, as compared with some earlier years:

1955-56 .....	2,895	Convictions
1956-57 .....	2,704	"
1957-58 .....	2,993	"
1958-59 .....	2,525	"
1959-60 .....	2,228	"
1960-61 .....	2,160	"
1961-62 .....	2,049	"
1962-63 .....	2,045	"
1963-64 .....	2,276	"

The results of prosecutions during the last four fiscal years are summarized as follows:

	1960-61	1961-62	1962-63	1963- 64
Number of Seizures .....	2,424	2,050	2,186	2,508
Number of Convictions .....	2,160	2,049	2,045	2,276
Cases Dismissed .....	126	56	66	68
Convictions reported by the R.C.M.P. re Migratory Bird Regulations .....	47	30	34	18
Seizures, from persons unknown .....	139	37	58	81

Hunting or fishing without a license continues to be a major item in the conviction records. Almost one-quarter of the cases handled fell in this category, as the following table shows:

## Comparison of Licence Offences During a Four-Year Period

	1960-61		1961-62		1962-63		1963-64	
	No.	Percent Frequency	No.	Percent Frequency	No.	Percent Frequency	No.	Percent Frequency
Fishing .....	183	8.5%	69	3.4%	81	4.0%	146	6.4%
Hunting .....	482	22.3	311	15.4	358	17.4	382	16.8
Trapping .....	16	0.7	5	0.2	10	0.5	24	1.5
TOTAL .....	681	31.5	385	19.0	449	21.9	552	24.7

Offences against the fishing regulations of frequent occurrence, (other than with respect to licences), were as follows:

1. Possessing an overlimit of fish .....	173
2. Taking fish by means other than angling .....	130
3. Angling with more than one line .....	111
4. Taking fish during closed season .....	59
5. Possessing fish during closed season .....	40
6. Possessing a fish spear within 50 feet of the water's edge, during prohibited hours .....	35
7. Taking fish by means of set lines .....	34
8. Illegal transportation of fish .....	15
9. Possessing nets without a licence .....	12
10. Operating nets without a licence .....	11
Hunting and trapping offences which occurred most often included:	
1. Possession of a loaded firearm (a) in a vehicle .....	248
(b) in a power boat .....	97
2. Hunting during prohibited hours .....	203
3. Hunting during closed season .....	89
4. Hunting or possessing firearms in a Provincial Park or Crown Game Preserve .....	55
5. Night hunting (attempting to jacklight deer or moose) .....	47
6. Possession of migratory birds in closed season .....	27
7. Hunting with a shotgun, not plugged so as to be incapable of holding more than 3 shells .....	27
8. Careless hunting .....	15
9. Hunting protected birds .....	15
10. Permitting dogs to run at large .....	15

Conservation officers were assisted in enforcing regulations by more than 200 biologists, foresters, chief and deputy chief rangers, and more than 1,200 deputy game and fishery wardens. Once again it is appropriate to express appreciation for the assistance given by officers of the Ontario Provincial Police Force. Officers of the Royal Canadian Mounted Police, whose duties include enforcement of such Federal Statutes as the Migratory Birds Convention Act and the Fisheries Act, together with the regulations made pursuant to these Acts, provided a major contribution to the Provincial fish and wildlife management program.

Equipment which is used in violation of The Game and Fish Act, the Ontario Fishery Regulations, or the Migratory Bird Regulations is seized by the conservation officer at the time of apprehension. Upon conviction such equipment is forfeited to the Crown and the Minister may grant relief from forfeiture upon such conditions as he deems just. Articles which are confiscated for having been used in connection with serious offences, or for which no request has been made to have them restored to their owners, are sold at public auction. Four firearms sales and two fishing tackle sales were held in 1963. (Firearms which do not meet safety standards, but which can be repaired, are sold to gun dealers through sealed tenders.) A total of \$8,928.75 was realized and paid to the Treasurer of Ontario.



## Fishing Tackle Sales

District	Date	Revenue	
Kemptville	June 15	\$ 750.75	
Fort Frances	June 15	767.75	\$1,518.50

## Firearms Sales

District	Date	Revenue	
Port Arthur	Sept. 12	\$1,580.25	
Hespeler	Sept. 14	2,438.00	
Pembroke	Sept. 19	1,387.00	
Sudbury	Sept. 21	1,728.50	\$7,133.75
Total Revenue of Sales			8,652.25
Re Sale of Repairable Firearms to Dealers, by tender			276.50
			<u>\$8,928.75</u>

## Law Enforcement Training

Arrangements were made for the law enforcement training officer to attend the School of Instructional Techniques, operated by the Royal Canadian Air Force at Clinton, Ontario and the Ontario Police College at Aylmer. The background thus obtained is being used to develop specialized law enforcement courses for the conservation officer staff.

## Hunter Safety Training Program

The aim of the safe gun handling program is to reduce the number of accidents caused by firearms in the field of hunting. A secondary purpose is the introduction of the students to an understanding of better game management practices.

It has been compulsory since September of 1960 for all new hunters to complete a course in hunter safety training in order to purchase their first hunting license. The majority of students obtain their training through conservation clubs across the Province. The Department has 3,050 certified instructors giving freely of their time and equipment to this worthwhile youth training program. During the calendar year 1963, some 20,400 completed the course, making a total of 66,382 new hunters in the field who have obtained the fundamentals of safe gun handling. The following table shows the progress of the program from year to year since 1957:

## Students Qualified

Year	Total to Date	
1957	281	281
1958	1,668	1,949
1959	2,780	4,729
1960	10,917	15,646
1961	15,267	30,913
1962	15,082	45,995
1963	20,387	66,382

A great number and variety of organizations have participated in these courses, and the Table below outlines the percentage of new hunters that each have graduated.



Year	Ontario Federation of Anglers and Hunters	Conservation Clubs Outside Federation	Miscellaneous
1960	47%	24%	29%
1961	41	22	37
1962	35	24	41
1963	35	12	53

The increase in the number of students processed by miscellaneous groups may be accounted for by the fact that this program was incorporated into the curriculum of the high school cadets, and the cadet corps of the militia, who began giving the training during the summer of 1963 at the various military camps throughout the Province. Other organizations participating included service clubs, boy scouts, church groups, community centres and some individual instructors.

Data on hunting accidents are gathered through co-operation with Ontario Provincial Police, as well as by our own conservation officers and our newspaper clipping service. The hunting accidents over the last four years are as follows:

Year	Fatalities	Non-Fatal	Total
1960	36	118	154
1961	22	104	126
1962	17	109	126
1963	15	103	118

The trend is encouraging, but it is too soon to fully assess the progress made by this training method.

Uniform Hunter Casualty Reports are obtained on every hunting accident involving a firearm. From these reports we find the main causes of accidents are as shown in the following table:

#### CAUSE OF ACCIDENTS

	Percent of Total Accidents	
Intentional Discharge:		
Victim mistaken for game .....	13%	
Victim out of sight of shooter .....	13	
Victim covered by shooter swinging on game .....	7	
Vicim moved into line of fire .....	3	36%
Unintentional Discharge:		
Shooter tripped or stumbled .....	18%	
Trigger caught on brush, clothing, etc. ....	9	
Defective weapon .....	5	
"Horseplay" .....	4	
Loading and unloading .....	4	
Crossing fence or obstacle with firearm loaded .....	3	
In vehicle with firearm loaded .....	2	
Removing from or placing in vehicle .....	2	
All other circumstances .....	17	64%

The data respecting the age of shooters involved in hunting accidents indicates clearly the urgent need for increasing intensity in training the youths in proper gun handling. More than 53 per cent of the accidents involve hunters who are 20 years old, or younger.

Age Groups of Shooters Involved in Hunting Accidents	
Under 15 .....	9%
15 - 19 .....	44
20 - 29 .....	19
30 - 39 .....	9
40 - 49 .....	5
50 and over .....	9
Unknown .....	5

An alarming number of accidents are associated with disregard for the game laws. In reviewing the accident reports it is noted that 34 per cent of the shooters involved in hunting accidents were contravening one or another of the laws and regulations.

Although hunting is a relatively safe sport, sportsmen themselves have the primary responsibility to insure that it can remain so. Bearing this in mind, officers of the Department have given serious study to a system of testing all applicants before they obtain their first hunting licence.

## FISHERIES SECTION

### Game Fish and Hatcheries Sub-Section

Management of the fisheries resource in Ontario requires a very diversified program to meet the variable conditions resulting from the tremendous differences in population densities, land use, accessibility and topography throughout the Province. For example, the Department is presently concerned with the need for the creation of artificial impoundments and the acquisition of public access through patented lands in certain areas of southern Ontario while, at the same time, it is equally concerned with the investigation and development of countless lakes in the north which are virtually unexplored and accessible only by aircraft or extensive travel by waterways.

The fisheries management program in Ontario, therefore, varies considerably from area to area depending largely on local conditions and local requirements. Lake and stream surveys and related fish population studies still form the basic requirement of management and constitute a major part of the program. However, increased emphasis is being placed on more specialized fields of study such as the development of new and improved fishing areas, creel census, lake reclamation and the management of put-and-take fisheries, particularly in the more settled areas of southern Ontario, where public demand for recreation and sport fishing has increased tremendously in recent years.

Reports from field offices across the Province indicate reasonably good fishing success despite the increase in fishing activity. Good catches of warm water fish, including walleye, northern pike and bass, were common in the northwestern and south-central regions of the Province. In southeastern Ontario, the March 1st opening of the season for brook and brown trout proved to be very successful and it was well received by the majority of the angling public. Excellent fishing for bass and perch is reported from Lake Erie District. It should also be noted that the rainbow trout provided good fishing generally throughout its range and probably contributed more to the sport fishery this year than ever before.

Although the actual status of angling activity in the Province is unknown, it is apparent that the number of anglers fishing in Ontario water is increasing annually. This observation is substantiated, at least in part, from creel census studies carried out on various waters throughout the Province, from the continual spread of anglers to new waters and from the annual increase in the number of non-resident angling licence sales. These data, when considered with results of a household survey conducted in 1959, would indicate that some two million anglers probably fished in Ontario in 1963.

An outline showing the number and value of angling licence sales for 1963 and for the previous three years is included as Table I. It is noted that a new 3-day non-resident angling licence was introduced in 1963 and that this licence was purchased by 69,400 non-residents. The number of sales of non-resident

seasonal and organized camp licences sold in 1963 was slightly below that of 1962, presumably as a result of the new licence, but the total non-resident licence sales was increased by 45,428 licences producing an increased revenue of \$76,182.00 for the year.

## Hatcheries

Seventeen fish hatcheries were operated by the Department in 1963. These are listed below in order of classification and by their relative geographic location and Forest District:

Hatchery	Location	Forest District
Trout Rearing Stations		
Chatsworth	Chatsworth	Lake Huron
Tarentorus	R.R. 2, Sault Ste. Marie	Sault Ste. Marie
Hill Lake	Charlton	Swastika
Dorion	Dorion	Port Arthur
Normandale	R. R. 1, Vittoria	Lake Erie
North Bay	Balsam Creek	North Bay
Pembroke	R.R. 6, Pembroke	Pembroke
Codrington	Codrington	Lindsay
Pond Stations		
Westport	Westport	Kemptville
White Lake	Mountain Grove	Tweed
Deer Lake	Cordova Mines	Lindsay
Midhurst	Midhurst	Lake Simcoe
Skeleton Lake	Ullswater	Parry Sound
Sandfield	Sandfield	Sudbury
Jar or Trough Stations		
Wiarton	Wiarton	Lake Huron
Little Current	Little Current	Sudbury
Port Arthur	Port Arthur	Port Arthur

All of the hatcheries, except the Normandale station, were operated at or near their normal production. The Chatsworth station was placed back in operation this year following renovation. It is not expected that this station will reach full production until 1964 or later, but most of the new facilities are currently in use.

The Normandale station is presently inoperative and is scheduled for reconstruction in 1964. The Gibson Creek ponds, a sub-station to the Normandale hatchery, is still in operation and will continue to be maintained as a separate unit during the period of renovation.

A total of 72,420,035 eyed-eggs and fish were distributed in Ontario waters in 1963. The distribution included the planting of nine different species of fish as well as albino brook trout and hybrid splake (lake trout x brook trout). Production and distribution of these fish by hatchery is outlined in Table II. A summary of the total distribution by species for 1963 and for each of the preceding four years is also tabulated in Table III.

The production and distribution of hatchery reared fish was maintained at a reasonably high level in 1963. A decrease in the production and planting of walleye eyed-eggs was the most significant change. This reduction was due mainly to a recent change in department policy curtailing the distribution of walleye eyed eggs and fry for maintenance planting in waters where the species is already established.

Two hundred thousand lake trout eyed-eggs were secured this year from the Manitoba Government in exchange for 100,000 brook trout eyed-eggs and 50,000



maskinonge fry supplied from Dorion and Deer Lake hatcheries respectively. Two additional lots of 50,000 maskinonge fry were also supplied to the National Parks Branch of the Federal Government and to the Fish and Game Department of the Province of Quebec from the Deer Lake hatchery.

Two large scale plantings of marked lake trout yearlings were made in Lake Superior and Lake Ontario in 1963. A total of 476,709 fish were marked and planted in Lake Superior. Some 246,709 of these fish were marked by the removal of both ventral fins and planted in the Rossport—St. Ignace Island area from the Dorion trout rearing station. The remaining 230,000 fish, which were marked by the removal of the adipose fin, were released in the vicinity of Whitefish Bay (190,000) and at the mouth of the Dog River (40,000). The Lake Ontario planting was made jointly with the New York State Conservation Department with 108,000 lake trout yearlings provided by the United States Fish and Wildlife Service from their national hatchery at Charlevoix, Michigan. These fish were marked by the removal of the left pectoral fin before being transferred by Canso aircraft from the Charlevoix hatchery to the Glenora Fisheries Research Station. From here, the fish were transferred by the research vessel *Namaycush* and planted in the Main Duck Island—Charity Shoal area and at Big Bar Shoal in Lake Ontario.

A number of special projects were also undertaken in the hatchery program in 1963. The most important of these included:

#### WALLEYE POND CULTURE

The artificial propagation of walleye to fingerling size was initiated at the White Lake hatchery in 1961. This experiment was continued in 1962 and 1963.

The work carried on during the current year was directed at the clarification of several techniques developed during the previous studies and at reducing the production costs.

Results from the studies conducted this year indicate that the abundance of zooplankton produced in the White Lake hatchery ponds related more to the average depth of the pond than to the amount of fertilizer applied. Cannibalistic tendencies of walleye fingerlings were also shown to be more closely related to the size and age of the fish than to the abundance or scarcity of zooplankton forms in the ponds. The survival of walleye from fry to fingerling size was 23.1 per cent and the average cost was 0.8¢ per fish.

The Department is presently planning to continue with the production of walleye fingerlings on a limited scale. Initial production will be based mainly on requirements for stocking fingerling size fish for experimental study of survival in natural environments.

#### EFFECT OF LIGHT ON LAKE TROUT EGGS

Preliminary experimental studies to investigate the effect of various forms of artificial fluorescent lighting and natural light on the incubation of lake trout eggs were continued at Chatsworth hatchery. Initial results obtained in 1962 showed no significant differences in the rate of mortality or in the condition of the fish in the various lots used in the study. In 1963, the experiment was repeated and the light intensity was increased by removing the glass covers from each of the light fixtures, but again no apparent adverse effect was observed. It is therefore concluded that the fluorescent lighting at Chatsworth hatchery is not harmful to the incubation of lake trout egg stocks at this station.



## EFFECT OF WATER TEMPERATURE ON LAKE TROUT EGGS DURING INCUBATION

A series of practical experimental studies were undertaken at Wiarton and Tarentorus hatcheries to investigate and compare the rate of survival of lake trout during the period of egg incubation and the early stage of development of the fry. The eggs were collected from wild lake trout taken from Lake Manitou and Lake Simcoe. They were then transferred directly to each station where they were incubated and hatched in regular hatchery troughs. Results from these studies showed a marked difference in survival rate of the egg stocks reared at the two hatcheries. Considerably higher losses were encountered in both lots of eggs reared in the warmer spring water supply at Tarentorus hatchery confirming earlier observations that the higher temperature of spring water supplies may adversely affect the survival of lake trout spawn. Further detailed study is planned to determine the optimum temperature for the incubation of lake trout eggs.

### Private Hatcheries

This year legislation was established under The Ontario Game and Fish Act providing for the sale of smallmouth bass, largemouth bass, brook trout, brown trout, rainbow trout, Kamloops trout and Aurora trout for restocking purposes and for the sale of brook trout, brown trout and rainbow trout for human consumption under the authority of separate licences issued by the Department. Previously, the sale of bass and trout was restricted to restocking only and these operations were administered under a permit system.

The new licences are available to any private landowner with a suitable water supply on his property for a fee of \$10.00 each. The licence to sell fish for human consumption is provided only to those landowners with a water supply which is wholly contained on their own property and is not located on a natural watercourse, except where such watercourse originates on the property. All fish must also be tagged or packaged before being sold. The requirements for a licence to sell fish for restocking purposes are less stringent, but authorization for all plantings must be obtained from the Department before the fish may be transported from the hatchery property.

Nineteen licences authorizing the sale of fish for human consumption were issued during the current year, but none of the licencees reported selling any significant number of fish for this purpose. Twenty-five licences were issued for the sale of fish for restocking purposes. This is an increase of six over the number of permits issued for this purpose in 1962. A summary of the distribution of fish for restocking from private hatcheries is outlined in Table IV.

## SPECIAL PROJECTS

### 1. NET SECTION

The staff of the Net Section at Maple participated in various netting operations undertaken directly or in co-operation with district personnel. Fish tagging projects were conducted on the Talbot River (Lake Simcoe District), Shawanaga Basin of Georgian Bay (Parry Sound District), Mistinikon Lake (Swastika District), North Channel at Blind River (Sault Ste. Marie District), Batchawana Bay of Lake Superior (Sault Ste. Marie District), and on Lake Simcoe (Lake Simcoe District). Surveys of fish populations were carried out on the Raisin River and Lake St. Francis (Kemptville District), Plevna Lake

(Tweed District), Christie Lake (Kemptonville District), Dalrymple Lake (Lindsay District), and Little Lake (Lake Simcoe District). Fishing operations were also carried out to collect fish for the Mount Pleasant Public Fishing Area, the Canadian National Exhibition and the Canadian National Sportsmen's Show. Nets were also operated for the collection of lake trout eggs in Mishi-bishu Lake, Lake Simcoe and Lake Manitou and for the collection of whitefish eggs on Lake Manitou.

The Port Arthur section of the netting staff was involved in two major projects, i.e. Lake Nipigon (Geraldton District) and Rainy Lake (Fort Frances District) during 1963. In addition, they participated in a number of lake surveys conducted on Baril Lake, Greenwich Lake, Rose Lake, Whitefish Lake, Marks Lake and Sigh Lake in the Port Arthur District, and on White Otter Lake in the Sioux Lookout District.

## 2. PATRICIA INVENTORY

The Patricia Fisheries Inventory Project was initiated in 1959. The purpose of the project was to survey the important waters, examine the respective fish populations in detail, and to plan and institute appropriate management of the fisheries in the respective waters. To achieve this objective, a relatively intensive study was planned for each of the larger lakes and/or for at least one lake on each of the major watersheds in the area.

This fact finding program has progressed steadily since its inception in 1959. The following waters were examined during the summer of 1963:

- Big Trout Lake
- Sakwaso-Nikip group of lakes
- Lake St. Joseph
- Winisk Lake
- Sachigo Lake and the Sutton River

In addition to these major surveys, resource management officers conducted eleven short term or preliminary surveys on minor lakes. As a result of these surveys, commercial fishing licences were issued on five of the 11 lakes and fishing operations were carried on during 1963.

## 3. OUANANICHE (ATLANTIC SALMON) PROJECT

Although this fine sporting fish has been introduced to several waters in Ontario in past years, Trout Lake near North Bay is the only lake in which the species is known to be established.

A project to study the life history and ecology of the ouananiche in Trout Lake was commenced in 1962 and continued in 1963. Field studies are being directed towards the investigation of the natural spawning activity and the assessment of spawning success in Four Mile Creek, a spring fed tributary. Observations have also been made on the spawning run of adults and trap nets have been installed for the capture of young salmon on their downstream migration. In addition, a number of plantings of hatchery reared ouananiche (origin Trout Lake) have been released in tributary waters. This year two plantings, including 1,250 fry and 4,520 marked yearlings, were made in North River and Four Mile Creek. Few detailed results are available at this time. However, adult salmon have been sighted in Four Mile Creek, presumably on their spawning run, and a few young salmon have been taken on their downstream migration, but further data are required before a proper analysis or assessment can be made.

#### 4. PUBLIC FISHING AREAS

##### (a) Mount Pleasant Ponds

This site was again operated as a public fishing area during 1963. Some difficulty was experienced in obtaining fish for the ponds and in the transfer of the stock during the heat of mid-summer. However, a total of 7,971 anglers utilized the area and participated in the harvest of perch, bullheads, catfish, sunfish, rock bass, largemouth bass and small-mouth bass which were provided throughout most of the fishing season.

Renovation of the pond facilities was initiated this fall. The proposed improvements will include deepening and regrouping the existing seven ponds into three larger units. The project is not expected to be completed until the summer of 1964, but it is hoped that the improvements will increase the carrying capacity of the station and, possibly, provide a suitable habitat for holding rainbow trout.

##### (b) St. Williams Pond

This five acre pond, which is located on the St. Williams Forestry Station property, was enlarged and improved in 1962 for the development of a public fishing area. This year the pond was stocked with catchable size brook trout and rainbow trout, and the area was opened to the public for angling.

Results from the first year of operation were most encouraging. Some 22,000 anglers used the area and most experienced reasonably good fishing success. An estimated 75 per cent of the stocked trout were harvested by the anglers.

##### (c) Normandale (Schoolhouse) Pond

This is a small, half-acre pond located outside the village of Normandale. In 1962, the pond was improved by removing some of the extensive growth of aquatic vegetation and deepening, before being stocked with brook trout yearlings.

This year, the pond was opened to public fishing. Despite its small size and limited carrying capacity, the pond produced good fishing, with periodic stocking during the summer, for an estimated 2,350 anglers.

#### 5. LAKE OF THE WOODS FISH MANAGEMENT UNIT

This unit was established in 1962 to work specifically on the investigation and development of a suitable fisheries management program for Lake of the Woods. For study purposes, the lake was divided geographically into five parts with the plan to spend a full year initially on each segment. The investigations include extensive limnological and environmental studies of the lake and a thorough examination of the various fish populations.

The Shoal Lake area of Lake of the Woods was examined in 1962. Studies were conducted on the north-central segment of the main lake during 1963.

#### 6. KAWARTHA LAKES FISH MANAGEMENT UNIT

Although this unit was established in the fall of 1962, field work was not initiated until the spring of 1963. Limnological stations were chosen on

Table I

## SALE OF ANGLING LICENCES

Type of Licence	1960		1961		1962		1963	
	Quantity	Revenue	Quantity	Revenue	Quantity	Revenue	Quantity	Revenue
Non-Resident Seasonal .....	396,213	2,378,783.47	409,873	2,460,735.74	426,775	2,562,171.00	405,167	2,434,502.00
Non-Resident 3-day .....	—	—	—	—	—	—	69,401	208,581.00
Non-Resident Organized Camp .....	4,893	9,786.00	6,202	12,404.00	6,533	13,066.00	4,168	8,336.00
Manitoba .....	5,133	15,600.25	6,303	19,111.50	—	—	—	—
Resident Prov. Park .....	10,275	31,200.75	11,425	34,651.25	10,880	33,017.50	11,075	33,600.00
Resident Prov. Park Organized Camp .....	241	241.00	310	310.00	320	320.00	201	201.00
TOTAL REVENUE	\$2,435,611.47		\$2,527,212.49		\$2,608,574.50		\$2,685,220.00	



representative lakes in the Kawartha chain and data were collected on water quality, temperature and oxygen content at these sites periodically during the summer.

Fish population studies were also started on Sturgeon and Cameron Lakes by extensive trap netting. Fish collected from these operations were tagged and returned to the water after relevant information pertaining to length and age had been recorded.

The unit also undertook the tagging and transfer of bass and maskinonge from the Nogies Creek Fish Sanctuary to other waters in the Kawartha area. This project, which has been in progress for a number of years, will be managed by the Kawartha Lakes unit in the future.

## 7. FISH POPULATION STUDIES

Special investigations were carried out on Rainy Lake, Lake Nipigon, Pointe au Baril area of Georgian Bay, North Channel at Blind River and Lake St. Francis. In these studies, particular attention was given to the distribution, abundance and growth of the existing fish populations.

### Regulations

No major changes were made in the Ontario Fishery Regulations for 1963. However, the following amendments are of general interest:

- (a) The brook trout season in southeastern Ontario and parts of north-eastern Ontario was opened on March 1st.
- (b) Winter fishing for lake trout was permitted in the seven northerly townships of Peterborough County.
- (c) A three-day non-resident angling licence was introduced.

A new regulation was also established under The Game and Fish Act which provides for licensing the sale of smallmouth bass, largemouth bass, brook trout, brown trout, rainbow trout, Kamloops trout and Aurora trout for restocking purposes and the sale of brook trout, brown trout and rainbow trout for human consumption.

Table II FISH DISTRIBUTION FROM ONTARIO PROVINCIAL HATCHERIES FOR 1963

HATCHERY	Brook Trout	Lake Trout	Rainbow Trout	Largemouth Bass	Smallmouth Bass	Maskinonge	Whitefish	Walleye	Splake
Chatsworth (TRS)	12,500 Fg 148,700 Y	—	10,000 Y	—	—	—	—	—	—
Codrington (TRS)	54,060 Y	41,275 Y	34,812 Y	—	—	—	—	—	—
Deer Lake (PS)	82,900 Y	48,500 Y	—	—	—	1,870,000 F 27,150 Fg	—	—	—
Dorion (TRS)	574,580 EE 357,370 Fg 21,430 Y 1,290 A	256,694 Y	—	—	—	—	—	—	—
Hill Lake (TRS)	229,283 Y 36,632 A	66,445 Y	12,340 Y	—	—	—	—	—	—
Little Current (JH)	—	—	—	—	—	—	46,350,000 F	7,200,000 EE	—
Midhurst (PS)	67,800 Y	—	—	—	—	—	—	—	—
Normandale (TRS)	7,800 Y 20,100 A	—	5,000 Y 11,380 A	—	—	—	—	—	—
North Bay (TRS)	98,250 Y 14,500 A	9,500 Fg 31,000 Y	3,000 Fg 1,500 Y	—	—	—	—	—	—
Pembroke (TRS)	21,700 Fg 256,925 Y	30,900 Fg	—	—	—	—	—	—	—
Port Arthur (TH)	—	10,000 Fg	—	—	—	—	—	—	—
Sandfield (PS)	168,100 Y	49,930 Y	—	—	94,000 F 79,500 Fg 156 A	—	—	—	—
Skeleton Lake (PS)	149,300 Y	65,250 Y	32,500 Y	—	98,000 Fg 160 A	—	—	—	—
Tarentorus (TRS)	342,650 Y	286,460 Y 5,510 A	15,000 Y	—	—	—	—	—	114,100 Y 2,400 A
Westport (PS)	6,000 Y	39,200 Y	4,000 Y	45,000 F 61,300 Fg	31,500 Fg	—	—	—	—
White Lake (PS)	250,280 Y	65,000 Y	58,000 Y	31,250 Fg	40,000 F 78,700 Fg	—	—	11,440,000 F 217,000 Fg	—
Warton (TH)	—	75,400 Fg	—	—	—	—	—	—	—

OTHER SPECIES: 1,250 Atlantic Salmon (Ouaniche) fry were distributed from North Bay Hatchery  
 4,520 Atlantic Salmon (Ouaniche) yearlings were distributed from North Bay Hatchery  
 5,303 Albino Brook Trout yearlings were distributed from Hill Lake Hatchery

NOTE: TRS—Trout Rearing Station  
 PS—Pond Station  
 JH—Jar Hatchery  
 TH—Trough Hatchery  
 EE—Eyed Eggs  
 F—Fry  
 Fg—Fingerlings  
 Y—Yearlings  
 A—Adults

Table III — FISH DISTRIBUTION FROM 1959 TO 1963

Species of Fish	Number of Fish Planted				
	1959	1960	1961	1962	1963
Black Bass, Largemouth					
Fry .....	45,000	230,550	—	55,000	45,000
Fingerling .....	46,500	29,500	25,250	112,120	92,550
Yearling and Adult .....	144	20	178	20	—
Black Bass, Smallmouth					
Fry .....	89,000	156,000	230,000	147,000	134,000
Fingerling .....	227,200	177,600	270,200	177,300	287,700
Yearling and Adult .....	499	510	619	291	316
Char, French Alpine					
Adult .....	—	345	—	—	—
Grayling, Arctic					
Yearling .....	26,500	—	—	—	—
Adult .....	—	—	—	500	—
Herring					
Eggs .....	1,067,750	—	—	—	—
Fry .....	—	50,000	—	—	—
Maskinonge					
Fry .....	4,070,000	3,390,000	2,832,500	2,970,000	1,870,000
Fingerling .....	50,450	51,405	74,500	23,550	27,150
Ouananiche					
Eggs .....	—	—	—	53,280	—
Fry .....	—	—	—	—	1,250
Yearling .....	—	—	—	—	4,520
Adult .....	—	660	—	—	—
Walleye					
Eggs .....	30,875,000	53,790,000	27,065,000	20,500,000	7,200,000
Fry .....	3,040,000	3,600,000	—	8,994,000	11,440,000
Fingerling .....	—	—	66,923	201,070	217,000
Salmon, Kokanee					
Yearling .....	—	250	—	—	—
Splake					
Yearling .....	135,047	13,151	97,068	111,792	114,100
Adult .....	1,204	—	5,640	—	2,400
Trout, Albino					
Yearling .....	—	—	—	—	5,303
Trout, Aurora					
Fingerling .....	2,314	2,000	1,300	1,347	—
Yearling .....	—	—	1,300	—	—
Trout, Brook					
Eggs .....	580,000	49,000	30,000	493,500	574,580
Fry .....	—	15,000	—	—	—
Fingerling .....	455,160	863,925	763,625	651,300	391,570
Yearling .....	1,807,855	1,615,960	2,051,875	1,655,249	1,883,478
Adult .....	84,294	76,481	72,562	75,445	72,522
Trout, Brown					
Fingerling .....	—	1,700	640	—	—
Yearling .....	192,795	85,380	5,000	—	—
Adult .....	12	79	—	—	—
Trout, Lake					
Fry .....	40,000	—	43,700	13,000	—
Fingerling .....	274,400	389,125	369,500	240,300	185,800
Yearling .....	633,990	653,065	714,670	988,732	949,754
Adult .....	—	115	8,278	718	5,510
Trout, Rainbow					
Eggs .....	20,000	—	3,000	—	—
Fingerling .....	19,517	28,120	101,896	60,300	3,000
Yearling .....	95,036	79,090	229,375	291,158	173,152
Adult .....	1,400	122	—	8,650	11,380
Whitefish					
Eggs .....	1,000,000	12,000,000	13,875,000	—	—
Fry .....	44,985,000	62,993,000	53,685,000	46,575,000	46,350,000
TOTAL .....	89,866,067	140,342,153	102,623,299	84,400,622	72,042,035

NOTE: Figures are compiled on a calendar year.

## SUMMARY OF THE DISTRIBUTION OF FISH PRIVATE COMMERCIAL HATCHERIES, 1963

Species	Number of Plantings	Number of Fish	Age Class
Brook Trout .....	18	37,000	Fry
	88	323,964	Fingerlings
	95	38,779	Yearlings
	62	10,589	Adults
Rainbow Trout .....	8	24,300	Fry
	28	20,700	Fingerlings
	20	10,225	Yearlings
	55	8,963	Adults
Largemouth Bass .....	1	50	Fingerlings
	7	675	Yearlings
	4	22	Adults
Bluegills .....	7	1,090	Adults

## THE COMMERCIAL FISHERY

During 1963 a total of 54,342,401 pounds of fish was produced from Ontario waters. Value to the primary producer was \$5,503,955.27. This is a reduction in catch of 14.8 per cent or nine and one-half million pounds from the record 63,783,597 pounds landed in 1962. The decrease in production, predominately in the lower priced species, in conjunction with higher production of yellow pickerel, or walleye, at good prices, resulted in a 3.0 per cent increase in total value over the previous year. Prices on the average were better in 1963 although yellow pickerel, bullhead and sheepshead showed a decline in average price per pound.

Comparison with landings for the previous year shows Lake Erie with two-thirds of the production of the province, although down 20.6% in pounds of fish landed from that lake; Lake Huron dropped 17.5% and the North Channel was down 31.8%. On the other hand, gains were noted in Lake Ontario, up 16.9%; Southern Inland waters up 34.0%; and Georgian Bay, up 59.5%. Fluctuations in value were more or less parallel to catches with the exception of Lake Erie and Lake Superior, where increases of 7.5% and 13.4% respectively occurred.

Comparison of production by species shows yellow perch, for the third consecutive year, comprising over a third of the catch and a quarter of the value of the commercial fishery in Ontario notwithstanding the 13.7 per cent decline in 1963 perch landings. Smelt, principally from Lake Erie trawling operations decreased eight and one-half million pounds or 44.6 per cent, but continued to rank second in quantity in the province. Yellow pickerel production increased by one and one-third million pounds or 37.8 per cent with a six-fold increase in Lake Erie and a smaller gain in Lake St. Clair. Northern Inland produced nearly half of the yellow pickerel in the province but landings declined 8.8 per cent. The catch of whitefish was down 7.8 per cent however, a substantial gain of 59.3 per cent was noted from Georgian Bay. A 17.6 per cent drop in chubs taken resulted from a reduction of half a million pounds from Lake Huron due to a sudden slump in the market. In Lake Erie, a half-million pound decline in white bass landings decreased provincial production by 20 per cent. Carp taken increased 17.6 per cent with large gains from the waters of Lake Ontario and Georgian Bay. Southern Inland production of carp dropped slightly however, in spite of the continued interest in the newly expanded fishery. Increased production of sunfish in Lake Ontario and Southern Inland waters effected a 39.3 per cent increase in provincial production. Lake trout production held steady in Northern Inland



waters and rose 61.5 per cent in Lake Superior as a result of the continuing improvement there following the lamprey control programme and large introductions of hatchery-reared stock. Continued interest in the eel fishery of Lake Ontario and improved prices resulted in a 36.5 per cent rise in production.

Comparison of equipment inventory figures compiled for the commercial fishery in 1963 with that for the previous year shows a 2.7 per cent increase in value with few significant changes. Total value of fishing boats, gear and shore installations, each showing increases, totalled \$10,263,802. The number of men engaged in the primary industry rose nearly 10 per cent, largely due to the increase in the number of small boats in the fishery in southern Ontario. New capital investment in the fishery during the year amounted to \$687,000, two-thirds of which covered new nets.

The number of commercial fishing licences in the province, excluding bait fish licences, increased 4.6 per cent to 1,862 of which 1,075 licences were for gill-nets. Licenses to catch bait fish on the other hand, decreased slightly to 2,125 while the number of bait-fish dealer's licences increased 6.1 per cent to 591.

A table of bait fish production has been included due to the growing importance of the industry in the province. Over five and one-half million dozen bait fish were purchased by anglers at a total value of \$1,752,909.

## COMPARATIVE STATEMENT OF THE PRODUCTION OF THE FISHERIES IN THE PROVINCE OF ONTARIO

Fishing Area	1962 lbs.	1963 lbs.	Increase lbs.	Decrease lbs.
Lake Erie .....	44,464,971	35,301,269		9,163,702
Northern Inland .....	8,571,510	8,440,489		131,021
Lake Huron .....	3,574,971	2,948,368		626,603
Lake Superior .....	3,146,466	2,973,136		173,330
Lake Ontario .....	1,750,182	2,046,347	296,165	
Lake St. Clair .....	1,031,411	1,042,742	11,331	
Southern Inland .....	643,954	863,181	219,227	
Georgian Bay .....	347,960	554,881	206,921	
North Channel .....	252,172	171,988		80,184
<b>TOTAL</b> .....	<b>63,783,597</b>	<b>54,342,401</b>		
<b>NET DECREASE</b> .....				<b>9,441,196</b>

## VALUE BY FISHING AREA

Fishing Area	1962 \$	1963 \$	Increase \$	Decrease \$
Lake Erie .....	2,352,506.77	2,529,509.16	177,083.39	
Northern Inland .....	1,170,726.97	1,169,527.76		1,199.21
Lake Huron .....	802,485.74	651,471.28		151,014.46
Lake Ontario .....	331,223.73	347,852.48	16,628.75	
Lake Superior .....	239,289.27	271,337.43	32,048.16	
Lake St. Clair .....	207,282.26	218,882.16	11,599.90	
Georgian Bay .....	94,658.55	164,168.70	69,510.15	
Southern Inland .....	74,646.33	102,336.34	27,690.01	
North Channel .....	68,380.56	48,788.96		19,591.60
<b>TOTAL</b> .....	<b>\$5,341,200.18</b>	<b>\$5,503,955.27</b>		
<b>NET INCREASE</b> .....			<b>\$162,755.09</b>	

# COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES IN THE PROVINCE OF ONTARIO

Species	1962 lbs.	1963 lbs.	Increase lbs.	Decrease lbs.
Perch (Yellow) .....	21,639,223	18,671,552		2,967,671
Smelt .....	19,314,275	10,705,175		8,609,100
Yellow Pickerel .....	3,707,625	5,107,526	1,399,901	
Whitefish .....	3,639,722	3,356,508		283,214
Chub & Tullibee .....	2,825,094	2,329,284		495,810
Lake Herring .....	2,630,092	2,374,189		255,903
White Bass .....	2,491,445	1,991,290		500,155
Suckers .....	1,540,072	1,650,163	110,091	
Carp & Carp Roe .....	1,124,281	1,322,501	198,220	
Sheepshead .....	1,116,956	1,502,980	386,024	
Northern Pike .....	975,934	990,042	14,108	
Ling .....	623,273	615,479		7,794
Bullheads .....	422,779	740,099	317,320	
Catfish .....	314,633	300,372		14,261
Sunfish .....	256,919	357,966	101,047	
Lake Trout .....	207,558	253,997	46,439	
Rock Bass & Crappies .....	137,463	176,745	39,282	
Sturgeon .....	132,948	132,203		745
Saugers .....	130,699	135,658	4,959	
Eels .....	128,006	174,750	46,744	
Goldeyes .....	34,459	19,985		14,474
Menominee .....	31,290	19,700		11,590
White Perch .....	20,143	53,332	33,189	
Caviar .....	1,586	1,321		265
Blue Pickerel .....	405	280		125
Dogfish, Alewife, Gar, Shad & unclassified "Mink Food"	336,717	1,359,304	1,022,587	
TOTAL .....	63,783,597	54,342,401		9,441,196
NET DECREASE .....				

## COMPARATIVE STATEMENT OF THE NUMBER OF COMMERCIAL FISHING LICENCES ISSUED IN THE PROVINCE OF ONTARIO

Type of Licence	1962	1963	Increase	Decrease
Gill Net .....	1,060	1,075	15	
Pound & Trap Net .....	148	166	18	
Hoop Net .....	234	269	35	
Coarse Fish Seine .....	100	92		8
Baited Hook .....	199	222	23	
Dip Net .....	21	16		5
Trolling .....	18	22	4	
TOTAL .....	1,780	1,862		
Bait-fish Seine, Trap & Dip	2,133	2,125		8
Bait-fish Dealers .....	557	591	34	
Bait-fish Preserving .....	84	101	17	
TOTAL .....	2,774	2,817		
TOTAL ALL LICENCES	4,554	4,679		
NET INCREASE .....			125	

# BAIT FISH PRODUCTION AND VALUE BY FORESTRY DISTRICT 1963

District	Value	Catch (By Dozens)
Aylmer .....	\$856,832.	3,556,157
Chapleau .....	71.	137
Cochrane .....	10,500.	27,000
Fort Frances .....	82,432.	169,628
Geraldton .....	5,504.	18,031
Gogama .....	566.	1,977
Hespeler .....	7,008.	13,799
Kapuskasing .....	2,797.	8,469
Kemptville .....	55,497.	88,383
Kenora .....	143,311.	290,148
Lindsay .....	130,000.	210,000
Maple .....	79,457.	478,842
North Bay .....	69,404.	122,534
Parry Sound .....	72,369.	144,738
Pembroke .....	10,546.	25,140
Port Arthur .....	32,586.	51,175
Sault Ste. Marie .....	31,148.	40,742
Sioux Lookout .....	31,930.	68,582
Sudbury .....	55,000.	103,538
Swastika .....	6,896.	17,400
Tweed .....	65,844.	128,912
White River .....	3,211.	6,168
TOTALS .....	\$1,752,909.	5,571,500
(Average price per dozen 31.5 cents)		

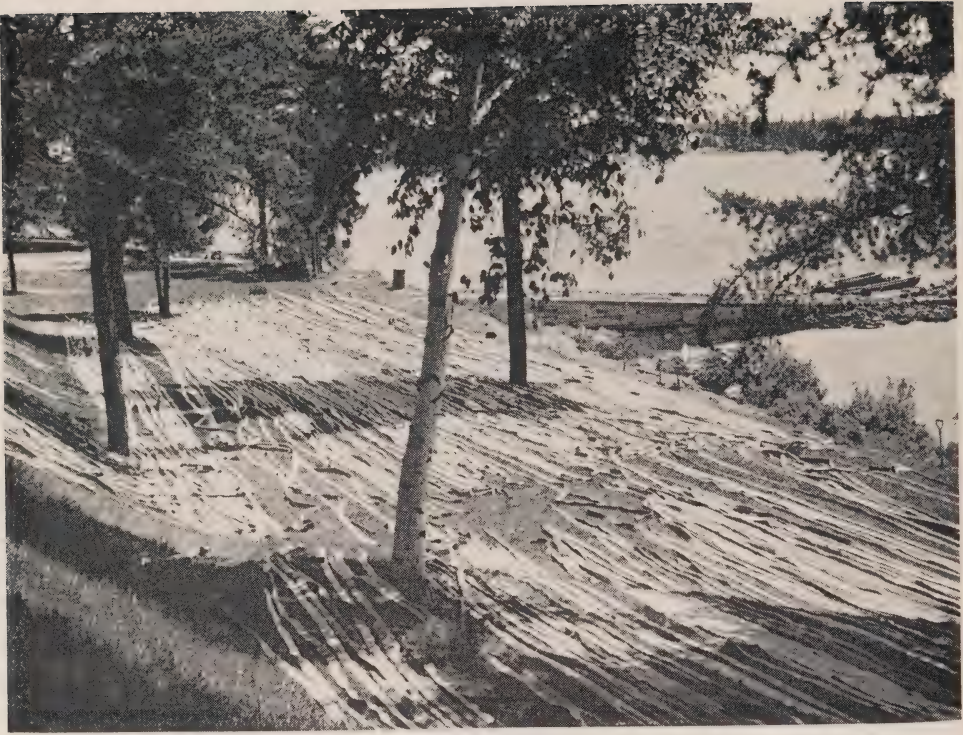
QUANTITIES OF FISH TAKEN (IN POUNDS) IN THE PUBLIC WATERS OF ONTARIO BY THE FISHING INDUSTRY  
In the Year Ending December 31, 1963

Species	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Georgian Bay	North Channel	Lake Superior	Northern Inland	Southern Inland	Total Catch	Total Value
Blue Pickerel	9	271	14,990	21		95		168,423	284,962	280	\$78.86
Bullhead	208,766	62,842								740,099	100,059.89
Carp	416,925	194,688	283,753	21,693	65,799	2,120	94	319	337,110	1,322,501	105,372.74
Catfish	19,959	156,394	82,755	12,859	9,272	13			19,120	300,372	59,875.94
Chub; Tullibee	35	5		1,668,729	104,122		80,944	475,449		2,329,284	392,494.63
Eels	169,351	99							5,300	174,750	33,176.04
Lake Herring	37,609	1,932		7,718	980	115	2,318,746	7,089	2,374,189	2,374,189	78,430.78
Lake Trout	667			761	21	147	112,412	139,987		253,997	90,646.85
Ling		2,433			290	230	2,776	606,143	3,607	615,479	4,559.72
Northern Pike	32,616	2,317	18,592	713	12,077	33,667	1,769	887,352	939	990,042	80,028.97
Perch (Yellow)	90,492	17,962,981	16,270	539,429	3,767	18,637	16,116	16,312	7,548	18,671,552	1,432,984.79
Menominee	338	260		1,955	154	5,865	11,128			19,700	1,496.56
Suckers	42,710	57,220	107,885	77,233	22,893	35,143	25,369	1,211,030	70,680	1,650,163	22,854.46
Rock Bass and Crappies	29,826	47,378	18,678			1,394		73,842	5,627	176,745	33,407.64
Saugers	19		75	676			62,602	72,286		135,658	30,234.14
Sheepshead	23,238	1,411,838	17,255	36,551	40			11,489	2,569	1,502,980	26,476.37
Smelt	170,526	10,524,298		1,786	118		4,197	4,250		10,705,175	392,924.16
Sturgeon	7,075	1,797	13,128	5,546	1,828	10,756	2,086	79,471	10,516	132,203	135,863.16
Caviar			42	200	10	18		1,051		1,321	4,978.75
Sunfish	174,757	40,976	45,814	31				27	96,361	357,966	36,892.57
White Bass	87,503	1,855,406	27,057	16,940				2,049	2,335	1,991,290	275,856.97
Whitefish	354,453	11,191		269,000	207,158	34,360	160,548	2,319,798		3,356,508	781,539.70
Walleye	67,795	1,874,433	329,399	225,147	98,632	29,428	167,297	2,314,895		5,107,526	1,372,939.74
Dogfish	19,883	25,503	4,674		10				4,771	54,841	1,003.06
Goldeyes								19,985		19,985	3,099.02
White Perch	53,096								236	53,332	2,926.63
Mixed "Scrap" & Animal Food	38,699	1,066,505	62,375	61,380	27,710		7,652	29,242	11,500	1,304,463	3,754.13
TOTAL CATCH	2,046,347	35,301,269	1,042,742	2,948,368	554,881	171,988	2,973,136	8,440,489	863,181	54,342,401	5,503,965.27
TOTAL VALUE	\$347,852.48	2,529,590.16	218,882.16	651,471.28	164,168.70	48,788.96	271,337.43	1,169,527.76	102,336.34		

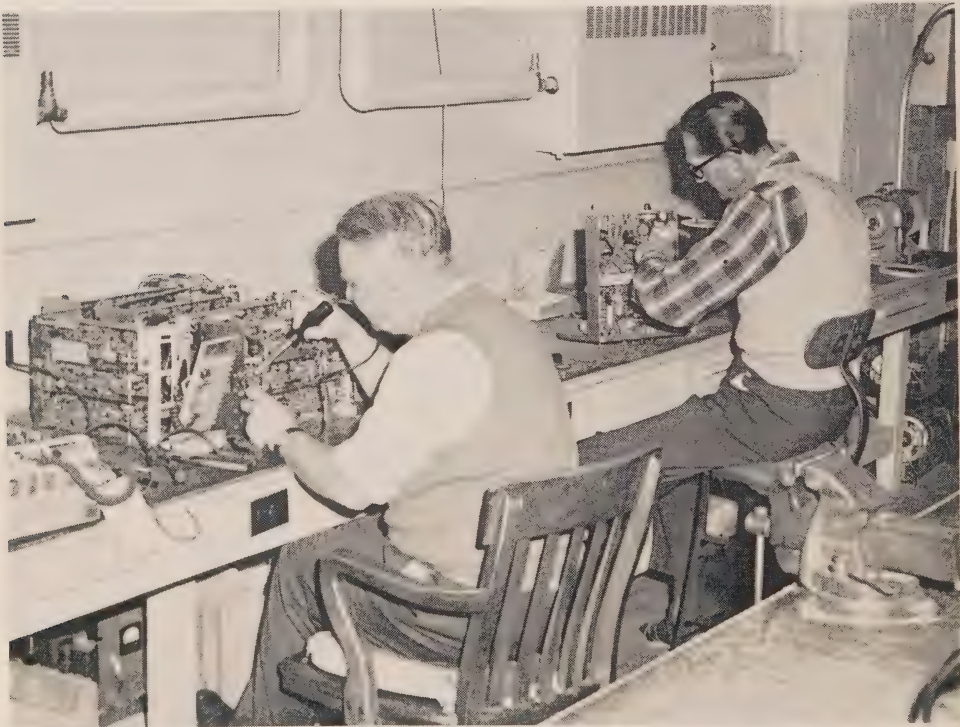


## For the Year Ending December 31, 1963

NUMBER OF MEN:										
FISHING BOATS:										
40 feet and over	416	667	87	194	110	64	188	1,391	154	3,271
No.		117		43	27	4	19	10		224
Tons	38	2,253		822	38	37	365	104		4,000
Value	\$16,500	1,862,438		559,469	310,868	32,920	168,600	81,958		\$3,032,753
20 to 39 feet	85	111	15	16	36	16	48	78	7	412
No.			31,882	47,200	85,950	23,200	98,900	96,610	4,500	
Value	\$125,750	351,223								\$865,215
Under 20 feet	364	146	49	10	44	28	58	491	116	1,306
No.			18,263	3,000	23,465	4,850	18,932	214,273	15,725	
Value	\$76,655	26,225								\$401,388
FISHING GEAR:										
Gill Net	1,071,991	4,245,010		1,258,450	872,729	205,100	732,658	770,559	43,100	9,199,597
Yards				365,568	215,560	43,414	183,255	220,697	13,500	\$2,547,282
Value	\$238,488	\$1,266,800								745
Pound Nets		250	357	14	41	27	16	40		
No.			117,700	3,000	53,700	18,000	16,300	30,880		\$443,580
Value	\$204,000									694
Trap Nets	3	502		138	3	9	1	38		
No.	\$300	375,700						16,064		\$505,758
Hoop Nets	1,003	118	10	105,269	2,350	4,700	1,375		709	1,943
No.		9,850	400					103		\$124,728
Value	\$69,693							6,848	37,937	15,802
Seine Net	1,880	8,900	2,800		100				4,305	\$45,629
Yards	\$4,724	31,235	5,290		75					
Value										75,550
Night Lines	34,300	10,550	20,800	150	1,200			5,100	3,450	\$11,085
Hooks	\$4,187	2,946	2,354	50	200			1,001	347	
Value										13
Dip Nets	2	1						3	7	\$101
No.	\$23	10						25	43	\$565
Value										109
Trolling Lines	31									\$82,828
No.	\$565									
Value		\$77,728					\$5,100			
Trawls										
SHORE INSTALLATIONS:										
Freezers and ice houses	30	37	18	26	32	19	47	298	4	511
No.	\$17,835	649,058	14,334	95,575	47,450	12,800	37,803	167,070	1,025	\$1,042,950
Value										439
Piers and wharves	38	59	17	16	44	14	51	191		
No.	\$13,975	85,650	8,942	10,425	51,125	5,050	17,975	62,042	795	\$255,979
Value										747
Net Sheds	139	174	26	53	46	22	87	172	28	
No.	\$83,092	440,366	39,973	99,800	73,960	18,510	61,276	74,359	12,625	\$903,961
Value										
TOTAL VALUE										
	\$651,787	\$5,383,229	\$239,138	1,289,356	\$864,703	\$163,444	\$609,516	\$971,827	\$90,802	\$10,263,802



Fire hose being dried after forest fire, prior to rolling.



Good communication is vitally important in forest fire control. Here, Lands and Forests technicians repair receiving and transmitting sets.

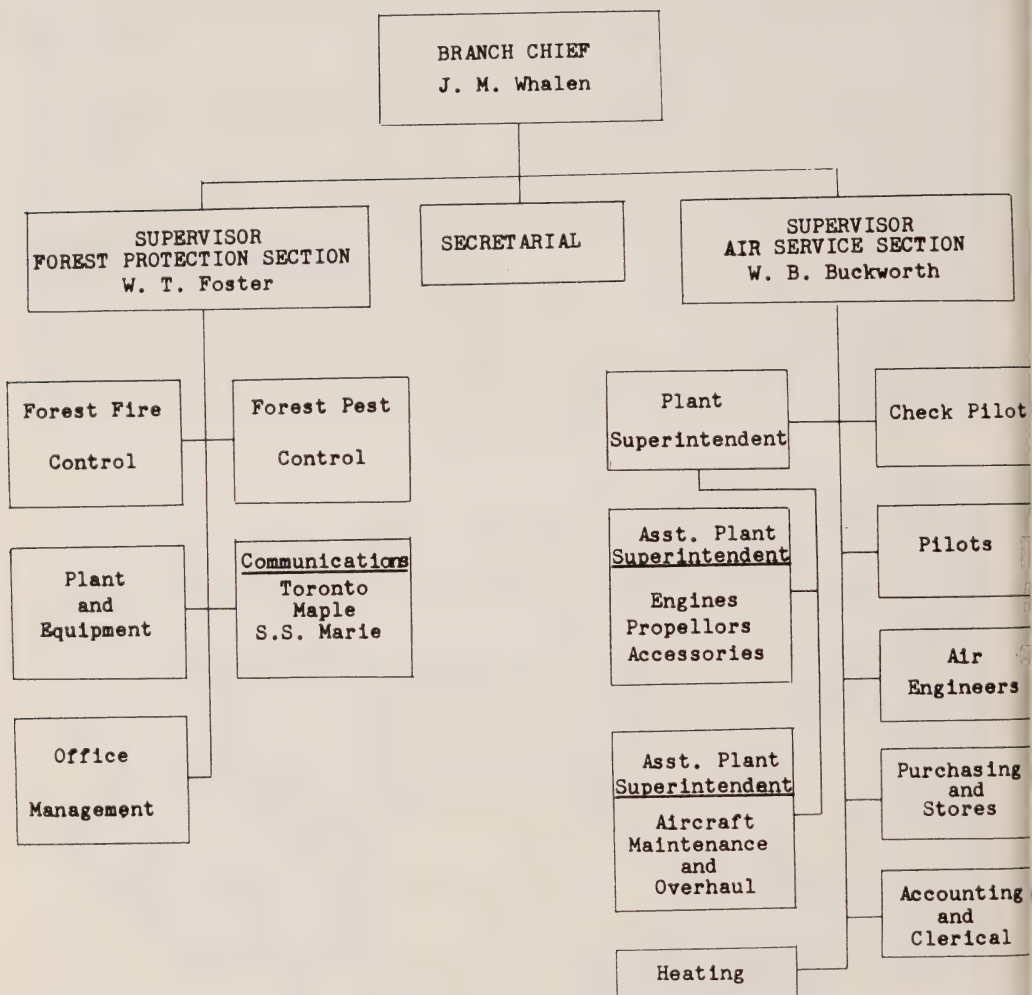
## FOREST PROTECTION BRANCH

**T**HE Forest Protection Branch is comprised of two Sections: Forest Protection, with headquarters in Toronto; and Air Service, with headquarters in Sault Ste. Marie. The responsibilities and functions of the Branch are as follows:

1. Forest Fire Control Organization, staff distribution, fire district boundaries, fire warden system.
2. Fire Control Planning, preparation and implementation of fire control plans.
3. Fire Prevention, through removal of hazards, construction of fire guards, and travel, fire and work permits. Warnings to the public of existing and impending fire danger. Co-operation with Department of Transport, Railways, Indian Affairs Branch, Woods Operators and other forest users in preventing, reporting and suppressing fires.
4. Detection of forest fires by a system of towers and aircraft patrols.
5. Training of staff, woods industry employees and other co-operators in fire suppression techniques.
6. The use of prescribed burning to eliminate hazards, and for various forest management purposes.
7. Forest fire suppression by co-ordinating movement of resources between regions as required and emergency arrangements.
8. Fire statistics and reports.
9. Radio communications for fire control and all other Department requirements.
10. Pest Control by prevention of damage to trees caused by insects, disease and small mammals on all lands under Department management.
11. Maintenance and operation of the aircraft fleet in compliance with Department of Transport Regulations and to provide for the utmost safety. Selection of all technical staff including pilots and engineers. Leasing and disposition of helicopters.
12. Plant and equipment program for the Department including all building and improvement projects, major equipment including vehicles. Vehicle and building records, maintenance procedures, specifications, licensing and insurance. Equipment development.



# FOREST PROTECTION BRANCH





## FOREST PROTECTION SECTION

### Forest Fire Control

During the 1963 fire season, 1,885 fires occurred, burning over a total of 56,138 acres. Compared with decade averages for the period 1951 to 1960 inclusive, fire occurrence was 45% above average and area burned 42% below average.

The highest fire occurrence period for the fire season was between June 22nd and July 31st when 703 fires were reported. During the months of May, June and July, 54% of all fires and 76% of the area burned were recorded.

Fairly long periods with high to extreme burning index ratings were experienced in all parts of the Province. The reasonably even distribution of fires and area burned substantiated this fact. High to extreme fire danger conditions continued into November and the Fire Season was extended from October 31st to November 11th.

### FIRE FREQUENCY BY CAUSE

The percent of total fires for the season started by lightning was 6% lower than the previous decade average of 23%. The percent of man-caused fires for the year was consequently 6% higher than the average for the previous decade.

### PROSECUTIONS AND CONVICTIONS

A total of 71 charges were laid under the Forest Fires Prevention Act and Regulations, resulting in 65 convictions.

### FIRE PREVENTION

The use of Rangers with special fire prevention vehicles was extended to several fire districts during 1963. The Rangers make numerous fire prevention contacts, visit schools, attend meetings, distribute prevention material and carry out inspection. Vehicles are supplied with a mobile radio and fire fighting equipment and are available at all times for immediate dispatch to a fire. This type of program has been instituted in areas with a high man-caused fire incidence to intensify public contact as a means of fire prevention.

A 25 minute fire prevention film "Flames in the Forest", was produced for the Department during 1963. The film outlines need for prevention and steps to take that will prevent fires from starting. It is suited for showing in schools, to adult groups and on television.

### FOREST FIRE DETECTION

A visible area mapping program for all lookout towers was started during 1963. Mapping techniques using contour maps and helicopters were developed by Department staff.

A fire finder manufactured by the Federal Department of Justice at a penitentiary in British Columbia was field tested. Results were favourable and all towers will eventually be supplied with the equipment.

## PREScribed BURNING

A total of 17 prescribed burn projects covering approximately 2,428 acres were carried out in 1963, summarized as follows:

Blueberry production	2035 acres
Seed bed preparation	266.5 acres
Stand conversion	74 acres
Regeneration	44 acres
Stand improvement	8.5 acres

All burns except those in connection with blueberry production were of a research nature and more information is required before the operation becomes an accepted silvicultural technique in Ontario. Slash burning for hazard reduction is also being investigated and an intensification of effort in this regard is being planned.

## TRAINING

The Provincial Fire Control training program introduced in 1962 was extended during the 1963 fire season. A total of 107 candidates have now completed the Instructors' Training Course.

Training of armed forces personnel included a course at Camp Petawawa with 35 selected offices in attendance and courses at Camp Picton, Camp Petawawa, Camp Ipperwash and Camp Borden with 220 officers and NCOs in attendance.

Formal training of selected Indian groups was also extended during 1963. The bulk of this training was carried out in northwestern Ontario.

## NEW DEVELOPMENTS

In co-operation with DeHavilland Aircraft of Canada Limited, a 200 gallon water dropping tank was designed, built and installed on an Otter aircraft. The new tank is suspended under the fuselage of the aircraft and is readily demountable. This development has resulted in a much improved drop pattern along with some improvement in the flying characteristics of the aircraft.

An effective new water dropping bucket was developed for use with leased helicopters. Two sizes of "bucket" have been built—45 gallon units for use with Super-G-type helicopters and a 75 gallon unit built for the Hiller 12E or Bell G-4 type of helicopter. This development further increases the versatility of helicopters in forest fire control work.

A new fire report form was designed and used for the first full fire season. The form is suitable for use in an electronic data processing system.

## Forest Pest Control

Forest pest problems in Ontario, which involve chiefly damaging insects and disease of trees, are shared co-operatively with the Forest Entomology and Pathology Branch of the Canada Department of Forestry. The Province is responsible for initiating and conducting all control operations on lands under its jurisdiction, and the federal government conducts the surveys and research work on which control decisions are based.

## SURVEYS

Each year, this Department participates to a large extent in the Ontario portion of the Canada-wide Forest Insect and Disease Survey of the federal Department of Forestry. Detailed information concerning the occurrence and

distribution of specific insects and diseases is contained in the Annual Report of the Forest Insect and Disease Survey.

The spruce budworm infestation in northwestern Ontario declined substantially again in 1963 to a comparatively small area of light infestation, amounting to about 3,500 square miles, in the southeast corner of the Fort Frances District and the adjacent southwest corner of the Port Arthur District. This represents the lowest level of budworm activity in northern Ontario in more than 25 years. Nevertheless, budworm larvae were collected at several spot locations across northern Ontario through intensive sampling.

In southern Ontario there were small pockets of light to medium budworm infestation in the Lake Erie, Lake Huron, Lake Simcoe and Tweed Districts. The infestation which has persisted in a 40-year-old white spruce plantation in the Uxbridge Forest for over 10 years, increased from medium to heavy in 1963. Control operations have been withheld from this plantation because of the unusual opportunity to study budworm behaviour and tree reaction in an isolated, pure stand of young white spruce.

The forest tent caterpillar outbreak developed less extensively than expected during 1963 because of adverse weather conditions. Despite this set-back, it expanded and defoliated aspen stands over an area of about 19,000 square miles in northwestern Ontario, including all of the Kenora District and adjacent portions of the Sioux Lookout and Fort Frances Districts. In eastern Ontario the outbreak areas remained scattered, totalling 700 square miles, in areas west of Sudbury, west of Lake Nipissing, surrounding the Muskoka Lakes, and at several localities in the eastern part of the Pembroke District.

Larch sawfly populations across northern Ontario caused insignificant damage during 1963 and were at the lowest general level in 20 years. Populations of the larch sawfly across southern Ontario, although reduced somewhat, were still quite noticeable, especially in older plantations of European and Japanese larch in the Lake Simcoe and Lake Erie Districts.

The introduced European pine sawfly, which defoliates Scots and red pine plantations, extended its range eastward in southern Ontario, so that the eastern boundary is now a line from Midland south to Barrie and Newmarket, and then curving eastward along the south shore of Lake Scugog, and south to Newcastle. This represents a modest easterly extension during 1963 of about seven miles for the area south of Barrie. The spot infestations farther east near Vernonville and at Belleville also increased in area.

The eastern tent caterpillar, which is conspicuous by the tent it makes on wild cherry and apple trees principally along roadsides, remained about the same or showed a downward trend in numbers during 1963 in southern Ontario. However, in the southern part of the North Bay District there was a general increase.

The birch skeletonizer causes late summer browning of white-birch leaves which is quite spectacular in appearance but has almost no impact on the trees. Across central and southern Ontario, populations of this insect had been high since 1959, but declined in 1963. However, in northern Ontario the insect had a substantial upswing in numbers in parts of the Sioux Lookout District, in a wide band extending south from Lake Nipigon to Lake Superior and along the east side of Lake Nipigon, and in parts of the White River, Gogama, Cochrane, Swastika and North Bay Districts.

The distribution of Dutch elm disease in Ontario remained virtually unchanged during 1963, occurring throughout southern Ontario as far north as North Bay. However, within this area there was a notable increase in elm mortality in some localities.



## CONTROL

In the past, efforts to control insects have been concentrated largely in plantations. However, greater interest in recent years in the management of natural stands of white pine has focused attention on the high degree of damage caused by the white pine weevil. During 1963, 2,500 acres of high-value second growth white pine stands in the Pembroke District were sprayed with DDT for control of the weevil, using a Bell G2 helicopter. Other areas were sprayed with knapsack sprayer and helicopter, and in some areas control was also achieved by clipping and burning infested leading shoots. In total, almost 8,300 acres were treated for control of the white pine weevil.

After several years of intensive effort to control the red-headed pine sawfly, the populations of this insect finally reached low levels over most of southern Ontario. Despite this favourable over-all picture, populations remained high in some areas, resulting in control spraying on 4,500 acres of plantations, most of which were in the Kemptville District.

In newly planted, old agricultural lands, white grubs are capable of destroying the new plantations. Therefore, aldrin treatments at time of planting are essential, and in 1963 about 950 acres of open, grassy sites were treated. An additional 200 acres were treated with zinc phosphide for control of mice.

The major tree disease in Ontario's forests is the blister rust of white pine, and a substantial control program, which is tied in to the broader intensive management of white pine, has been in progress for several years. The disease is controlled by using the herbicide 2, 4, 5-T to kill the alternate host plants, wild currants and gooseberries, in the immediate vicinity of the pines. In 1963, an additional 15,700 acres of high-value young white pine stands were protected against the blister rust in parts of the Sault Ste. Marie, North Bay, Pembroke, Lindsay, Tweed and Kemptville Districts.

The fomes root rot, which is the major plantation disease in Europe and is starting to cause concern on this continent, was not discovered in Ontario until 1955, although it was probably brought into the province on nursery stock from Europe in the early 1900's. The principal outbreak centres are in red-pine plantations at St. Williams in the Lake Erie District, and at the Orr Lake Forest in the Lake Simcoe District. It is expected that the disease may be controlled by applying an inexpensive chemical, sodium nitrite, to all freshly cut stumps at time of tree removal in plantations. A start was made in 1963 by treating almost 200 acres during thinning operations, and it is anticipated that this practice will become routine in southern plantations.

## Radio Communications

Radio traffic totals were up 5 per cent on messages handled and 9 per cent on total word count, over 1962 totals. The entire communication system handled, in 1963, 91,558 recorded messages totalling 2,421,607 words. In addition, there was much spontaneous and unrecorded traffic between aircraft, mobile and portable stations.

Three new VHF radio stations were added to the network; being located at Lanark, Sibbald Point Park and Bon Echo Park.

Major purchases of new equipment consisted of 85 VHF six channel mobile radiotelephones for early 1964 installation and 230 VHF Walkie Talkie transceivers also for 1964 distribution and use.

A pilot run of 30 transistorized lookout tower radio sets proved successful to the point where 70 more were constructed late in 1963 for installation in three administrative districts for the 1964 season.



Modifications to existing radio equipment, particularly VHF mobile radiotelephones, continued throughout the winter months of 1963 to ensure conformity with Federal Department of Transport Specifications.

The following types and quantities of radio equipment constituted the 1963 inventory:—

Tower Radiotelephones	406
Mobile Radiotelephones (H.F. & V.H.F.)	453
Marine Radiotelephones	15
Portable Radiotelephones ( $\frac{1}{2}$ watt H.F.)	277
Portable Radiotelephones ( $2\frac{1}{2}$ watt H.F.)	111
Portable V.H.F. Walkie Talkie Transreceivers	109
Fire Base Portable Radiotelephones (2 watt)	125
Fire Base Portable Radiotelephones (35 watt)	94
30 Watt Ground Radio Stations (H.F.)	105
75 Watt Ground Radio Stations (H.F.)	2
100 Watt Ground Radio Stations (H.F.)	3
150 Watt Ground Radio Stations (H.F.)	8
300 Watt Ground Radio Stations (H.F.)	2
500 Watt Ground Radio Stations (H.F.)	8
15/20 Watt Ground Radio Stations (V.H.F.)	81
50 Watt Ground Radio Stations (V.H.F.)	75
(including V.H.F. attachments for 30 watt ground stations, above)	
Aircraft Radio Installations	44
(3 systems in each aircraft)	
Aircraft Ground Hailers	20
	<hr/>
TOTAL	1939

# NUMBER OF FOREST FIRES AND AREA BURNED OVER BY DISTRICTS

District	1959		1960		1961		1962		1963	
	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres
Sioux Lookout	16	34	148	20,303	201	1,130,814	59	1,300	92	14,665
Kenora	43	55	103	1,657	250	34,155	50	260	171	836
Fort Frances	38	205	81	1,231	95	5,233	10	3	62	2,390
Port Arthur	59	472	77	450	92	8,887	46	106	92	2,564
Geraldton	39	134	73	5,772	55	308	31	529	70	944
Kapuskasing	37	76	17	474	12	42	30	1,566	53	1,019
Cochrane	37	124	16	485	18	777	26	1,230	41	1,115
Swastika	59	1,235	4	69	23	266	41	790	46	885
Chapleau	39	111	15	30	7	361	23	26	26	28
Gogama	40	757	11	9	13	2	44	224	20	34
Sault Ste. Marie	75	115	28	18	75	347	80	384	121	638
Sudbury	154	759	53	65	115	666	332	4,459	382	16,586
White River	16	261	30	19	41	50	22	78	40	10,577
North Bay	75	441	18	12	38	128	141	1,241	155	1,367
Parry Sound	94	156	80	70	77	158	258	349	190	993
Pembroke	57	82	54	62	38	66	128	460	102	701
Tweed	98	208	89	521	100	2,341	106	560	120	556
Kemptville	—	—	—	—	—	—	—	—	4	5
Lindsay	40	40	49	136	50	122	57	200	78	209
Lake Huron	2	—	1	—	3	3	10	14	4	4
Lake Simcoe	11	16	9	3	2	2	27	25	16	22
TOTALS	1,029	5,281	956	31,386	1,305	1,184,728	1,521	13,804	1,885	56,138

# NUMBER OF FOREST FIRES AND AREA BURNED OVER BY MONTHS

Months	1959		1960		1961		1962		1963	
	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres
March	—	—	—	—	—	—	—	—	3	10
April	90	972	21	119	89	1,131	135	1,302	311	3,321
May	162	1,051	145	2,361	316	3,739	249	1,715	227	13,593
June	161	692	79	387	311	1,152,111	248	4,178	266	27,030
July	341	2,045	326	27,515	211	17,706	466	2,686	550	7,113
August	248	514	190	275	251	8,392	296	3,618	118	125
September	25	5	87	135	32	46	99	200	86	108
October	1	—	91	539	64	66	23	93	290	3,490
November	1	2	17	55	31	1,537	5	12	34	1,348
TOTALS	1,029	5,281	956	31,386	1,305	1,184,728	1,521	13,804	1,885	56,138

# CLASSIFICATION OF FOREST FIRES BY SIZE

Size	1959	1960	1961	1962	1963
	No.	No.	No.	No.	No.
¼ acre and under .....	470	416	502	670	696
Over ¼ to 10 acres .....	493	448	639	744	949
Over 10 to 100 acres .....	56	59	112	84	201
Over 100 to 500 acres .....	9	23	12	17	30
Over 500 acres .....	1	10	40	6	9
TOTALS .....	1,029	956	1,305	1,521	1,885

# FOREST FIRE SUMMARY

Year	Crown Acres	Private Acres	Total Acres	Total No. of Fires	Average Fire Size (Acres)
1925	132,481	57,062	189,543	1,149	165
1926	65,888	22,486	88,374	1,110	80
1927	22,772	12,970	35,742	924	39
1928	96,436	3,947	100,383	536	187
1929	608,750	16,893	625,643	1,550	404
1930	357,531	354,278	711,809	1,402	508
1931	105,866	32,421	138,287	1,851	75
1932	626,555	52,466	679,021	2,073	328
1933	325,034	24,924	349,958	1,919	182
1934	160,348	38,285	198,633	1,568	127
1935	183,179	67,483	250,662	1,309	191
1936	1,153,876	110,557	1,264,433	2,264	558
1937	201,887	22,859	224,746	1,453	155
1938	96,168	42,077	138,245	1,292	107
1939	26,089	3,009	29,098	961	30
1940	100,990	20,624	121,614	1,014	120
1941	271,793	394,754	666,547	1,265	527
1942	77,709	36,007	113,716	1,224	93
1943	33,465	19,352	52,817	624	85
1944	73,228	95,663	168,891	1,137	149
1945	17,997	30,513	48,510	966	50
1946	44,656	32,113	76,769	1,739	44
1947	38,093	45,939	84,032	1,393	60
1948	854,778	162,611	1,017,389	2,036	500
1949	40,593	19,472	60,065	1,834	33
1950	13,203	23,577	36,780	985	37
1951	96,662	4,581	101,243	904	112
1952	7,264	5,157	12,421	1,095	11
1953	44,519	14,290	58,809	1,520	39
1954	36,115	18,578	54,693	881	62
1955	370,948	25,475	396,423	2,252	176
1956	221,822	4,390	226,212	1,017	222
1957	24,250	22,401	46,651	1,671	28
1958	25,544	11,108	36,652	1,558	24
1959	2,580	2,701	5,281	1,029	5
1960	29,190	2,196	31,386	956	33
1961	1,180,900	3,828	184,728	1,305	908
1962	7,583	6,221	13,804	1,521	9
1963	40,692	15,446	56,138	1,885	30



## GENERAL CAUSES OF FOREST FIRES

	1962		1963	
	Fires	Acres	Fires	Acres
Lightning .....	295	1,991	319	19,241
Industrial .....	75	2,636	77	980
Recreation .....	592	5,249	811	28,665
Resident .....	146	1,053	313	2,565
Railways .....	76	532	93	1,381
Incendiary .....	38	59	36	1,819
Miscellaneous .....	289	2,201	216	1,404
Unknown .....	10	83	20	83
	1,521	13,804	1,885	56,138

## CAUSES OF FOREST FIRES

(Number of Fires, 1963)

By Source of Ignition	Fires	By Responsible Group	Fires
Smoking Material	636	Fisherman	255
Hot Box	—	Hunter	181
Brake Shoe	22	Canoeist	13
Steam Locomotive	1	Picknicker	29
Diesel Locomotive	11	Berry Picker	100
Fusee	7	Camper	58
Tie Burning	3	Private Cottager	68
Power Saw	3	Commercial Resort Operator	7
Mechanical Equipment	6	Guided Party	—
Spark from Burner	9	Children	190
Sawdust Pile Burning	—	Youth Groups	18
Right-of-way Burning	22	Car Passenger	123
Prescribed Burning	—	Train Passenger	5
Playing with Matches	142	Indian (on Indian res. only)	23
Sparks from Chimney	11	Timber Cruiser	—
Garbage Dump Burn	36	Woods Industry Employee	11
Rubbish Burning	57	Land Survey Party	2
Brush Burn	61	Trapper	9
Grass Burn	71	Prospector	4
Burning Bulldozed Piles	11	Mining Employee	5
Camp Fires	320	Pipeline Employee	1
Power Line (short circuit)	16	Hydro Employee	28
Structural Fire	24	Highway or Road Employee	8
Explosives	2	Municipal Employee	2
Fireworks	13	Telephone Company Employee	2
Miscellaneous (known)	23	R.R. Train Crew	55
Unknown	59	R.R. Section Crew	25
Lightning	319	R.R. Work Crew	3
	—	Other Industrial Employee	12
	1,885	Farmer	71
		Resident Rural (not Farmer)	110
		Resident Urban	17
		Military	—
		Unknown	106
		Hiker	16
		Lightning	319
		Miscellaneous	6
			1,885

# STATEMENT OF FIRE

District	Merchantable Forest Cu. Ft.	
	Crown	Private
Sioux Lookout .....	11,851,420	—
Kenora .....	197,926	790
Fort Frances .....	6,655	17,348
Port Arthur .....	43,965	850
Geraldton .....	886,197	—
Cochrane .....	2,550	63,670
Kapuskasing .....	261,050	—
White River .....	242,193	—
Swastika .....	100	—
Gogama .....	3,867	—
Chapleau .....	1,700	30
Sault Ste. Marie .....	155,391	—
North Bay .....	57,049	51,566
Sudbury .....	1,164,760	4,418
Parry Sound .....	622	—
Pembroke .....	12,850	—
Kemptville .....	—	352
Tweed .....	7,719	4,447
Lindsay .....	10,200	50,137
Lake Simcoe .....	896	512
Lake Huron .....	—	18
TOTALS .....	14,907,110	194,138

# DAMAGE TABLE — 1963

\$	Immature \$	Non-forest \$	Cu. Ft.	TOTALS \$
380,290.14	45,789.55	1,395.50	11,851,420	427,475.19
4,934.10	1,417.15	2,500.00	198,716	8,851.25
670.69	587.50	355.00	24,003	1,613.19
2,847.61	912.50	6,750.00	44,815	10,510.11
25,224.55	1,870.05	75.00	886,197	27,169.60
2,636.80	2,181.32	1.15	66,220	4,819.27
9,280.00	1,549.10	12,132.00	261,050	22,961.10
4,624.22	2,500.00	3,000.00	242,193	10,124.22
6.00	5,118.75	1,967.00	100	7,091.75
132.75	200.00	—	3,867	332.75
50.00	61.00	—	1,730	111.00
5,049.32	6,181.25	188.25	155,391	11,418.82
1,981.79	4,950.00	550.00	108,615	7,481.79
43,519.30	137,888.58	150.00	1,169,178	181,557.88
50.00	4,580.12	2,500.00	622	7,130.12
937.50	1,768.75	7,413.00	12,850	10,119.25
32.00	31.25	—	352	63.25
845.90	4,053.34	330.00	12,166	5,229.24
1,206.74	786.45	—	60,337	1,993.19
11.00	125.00	625.00	1,408	761.00
3.12	3.12	—	18	6.24
484,333.53	222,554.78	39,931.90	15,101,248	746,820.21

### MEANS OF FIRE DETECTION

	Towers	Rangers	Public	Aircraft	Total Fires
1963 Totals	620	92	851	322	1,885
1962 "	555	92	743	131	1,521
1961 "	419	74	566	246	1,305
1960 "	304	63	431	158	956
1959 "	414	66	458	91	1,029

### NUMBER OF FIRE PERMITS ISSUED

1963	1962	1961	1960	1959
23,523	22,298	20,956	18,616	17,889

### NUMBER OF TRAVEL PERMITS ISSUED

	1963	1962	1961	1960	1959
Permits .....	111,960	108,771	108,108	94,634	112,916
Persons .....	271,799	366,985	393,510	332,471	390,510



# NUMBER OF WORK PERMITS ISSUED — 1963

District	Mining Operations		Forest Operations		Miscellaneous Operations		TOTALS	
	Permits	Men	Permits	Men	Permits	Men	Permits	Men
Sioux Lookout .....	42	199	168	839	68	902	278	1,940
Kenora .....	11	54	203	605	66	416	280	1,075
Fort Frances .....	13	65	314	1,512	38	128	365	1,705
Port Arthur .....	14	40	168	2,924	73	647	255	3,611
Geraldton .....	91	2,837	45	284	46	411	182	3,532
Cochrane .....	29	141	300	3,191	31	408	360	3,740
Kapuskasing .....	129	2,830	5	17	101	1,851	235	4,698
White River .....	26	142	23	781	66	358	115	1,281
Swastika .....	176	1,449	43	1,035	24	188	243	2,672
Gogama .....	14	186	24	121	4	39	42	346
Chapleau .....	7	20	51	1,133	25	278	83	1,431
Sault Ste. Marie .....	44	322	118	1,268	52	446	214	2,036
North Bay .....	32	132	378	2,744	85	502	495	3,378
Sudbury .....	49	276	67	524	68	1,624	184	2,424
Parry Sound .....	5	11	213	1,146	83	537	301	1,694
Pembroke .....	1	7	150	850	54	932	205	1,789
Kemptville .....	1	4	9	36	1	15	11	55
Tweed .....	13	67	327	1,259	43	295	383	1,621
Lindsay .....	6	132	52	355	39	322	97	809
Lake Simcoe .....	—	—	—	—	14	142	14	142
Lake Huron .....	—	—	13	26	3	23	16	49
TOTALS .....	703	8,914	2,671	20,650	984	10,464	4,358	40,028

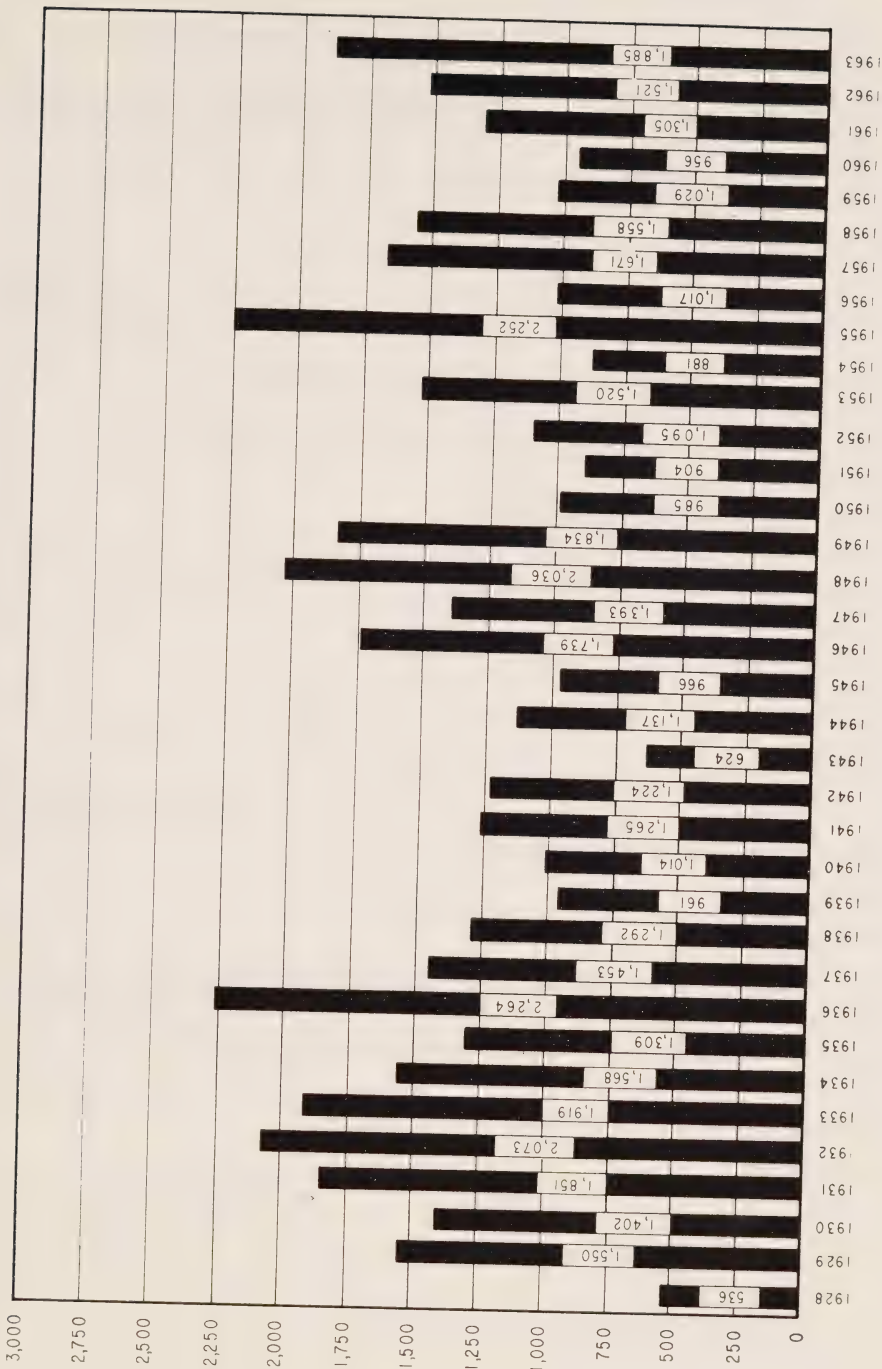
# REPORT OF MAJOR EQUIPMENT (As of March 31, 1964)

LOCATION	Portable Power Pumps	Hand	(oo's ft.) Fire Hose	Blankets	Tents	Sleeping Bags	Binocu- lars	Canoes	Boats Not Motor	In- board Motors	Out- board Motors	Motor Vehicles	Trailers	Tractors	Rly. Motor Cars	V	S	B
<b>DISTRICTS</b>																		
Aylmer .....	12	154	305	30	nil	6	35	3	20	6	17	52	20	14	nil	nil	nil	nil
Chapleau .....	47	214	1,204	2,169	125	70	20	23	11	nil	25	31	9	5	nil	nil	nil	nil
Cochrane .....	41	419	1,493	2,582	149	86	39	44	15	4	39	35	12	6	nil	nil	2	nil
Fort Frances .....	36	121	1,026	1,921	97	89	24	31	28	1	37	22	8	4	nil	3	2	nil
Geraldton .....	79	480	1,986	2,628	199	37	28	75	16	2	42	41	7	6	5	nil	3	nil
Gogama .....	34	270	1,108	1,670	67	40	20	34	11	2	21	20	5	11	nil	1	3	nil
Hespeier .....	13	216	307	nil	3	7	24	1	16	nil	14	42	25	6	7	6	nil	nil
Kapuskasing .....	21	424	1,270	1,554	112	32	24	51	26	nil	39	36	10	16	nil	1	2	nil
Kempenville .....	14	106	362	25	5	9	17	1	26	1	19	27	8	1	nil	nil	nil	nil
Kenosia .....	70	342	1,865	1,475	126	48	27	37	29	6	35	44	23	14	nil	1	4	2
Lindsay .....	43	385	1,138	654	42	41	30	28	41	1	43	47	18	28	nil	nil	2	nil
Maple .....	29	47	623	330	12	7	36	5	24	1	27	61	7	5	nil	1	1	4
North Bay .....	47	325	1,255	1,253	127	110	34	68	40	1	47	46	17	5	nil	1	4	nil
Parry Sound .....	43	290	1,139	920	60	82	33	34	44	2	46	46	12	10	4	nil	3	nil
Pembroke .....	41	259	1,902	2,417	117	108	20	61	32	nil	44	52	10	9	nil	2	3	nil
Port Arthur .....	56	341	1,826	2,104	154	94	30	39	21	nil	31	46	18	1	2	3	3	1
Sault Ste. Marie .....	67	547	2,374	3,443	195	78	27	52	24	2	68	31	7	3	1	3	2	2
Sioux Lookout .....	86	513	2,766	2,735	248	88	25	67	20	7	47	47	12	7	nil	nil	nil	nil
Sudbury .....	59	340	2,207	2,207	149	65	41	55	30	23	23	34	20	8	1	nil	nil	nil
Swastika .....	36	256	998	1,672	89	105	30	30	23	nil	23	49	20	4	1	nil	nil	nil
Tweed .....	43	249	932	535	42	60	39	14	50	1	49	20	1	3	2	nil	nil	nil
White River .....	37	222	1,211	1,369	81	38	17	43	11	nil	28	25	10	3	2	nil	nil	nil
<b>REGIONS</b>																		
Central .....	60	316	764	1,646	81	9	nil	4	1	nil	2	1	nil	nil	nil	nil	nil	nil
South-Central .....	nil	nil	nil	nil	nil	1	nil	nil	nil	nil	nil	nil	nil	1	nil	nil	nil	nil
Western .....	nil	nil	nil	nil	107	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil
Mid-Western .....	43	283	2,332	596	3	18	nil	nil	nil	nil	nil	1	nil	nil	nil	nil	nil	nil
South-Eastern .....	nil	nil	nil	nil	52	nil	1	nil	nil	nil	nil	5	1	3	nil	nil	nil	nil
Northern .....	35	465	1,557	1,141	1	nil	nil	nil	nil	nil	nil	5	1	3	nil	nil	nil	nil
South-Western .....	nil	nil	27	nil	1	nil	nil	nil	nil	nil	nil	5	1	3	nil	nil	nil	nil
<b>OTHERS</b>																		
Ranger School .....	11	37	153	751	6	1	4	21	6	nil	5	4	1	2	nil	nil	nil	nil
Air Service .....	nil	nil	nil	nil	nil	118	nil	1	2	1	5	2	nil	2	nil	nil	nil	nil
Head Office .....	14	nil	6	98	172	316	56	37	35	nil	56	77	19	8	nil	nil	1	nil
(Incl. Const. Auth. & Research) .....																		
TOTAL .....	1,117	7,873	34,244	37,033	2,618	1,764	676	859	584	38	841	988	305	211	36	14	29	5

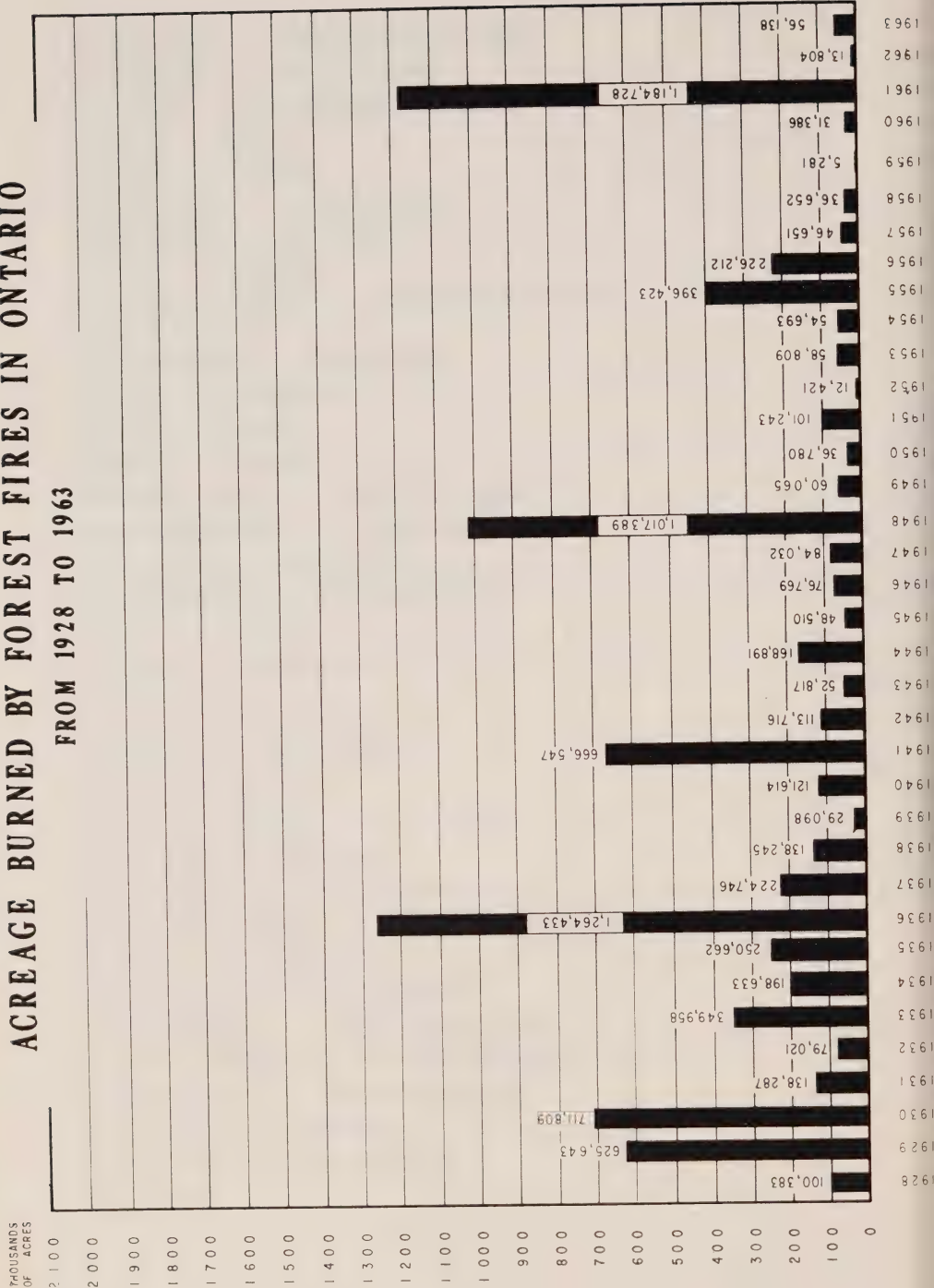
(V—Velocipedes  
(S—Snow Vehicles  
(B—Barges

# FOREST FIRES IN ONTARIO FROM 1928 TO 1963

NUMBER  
OF FIRES



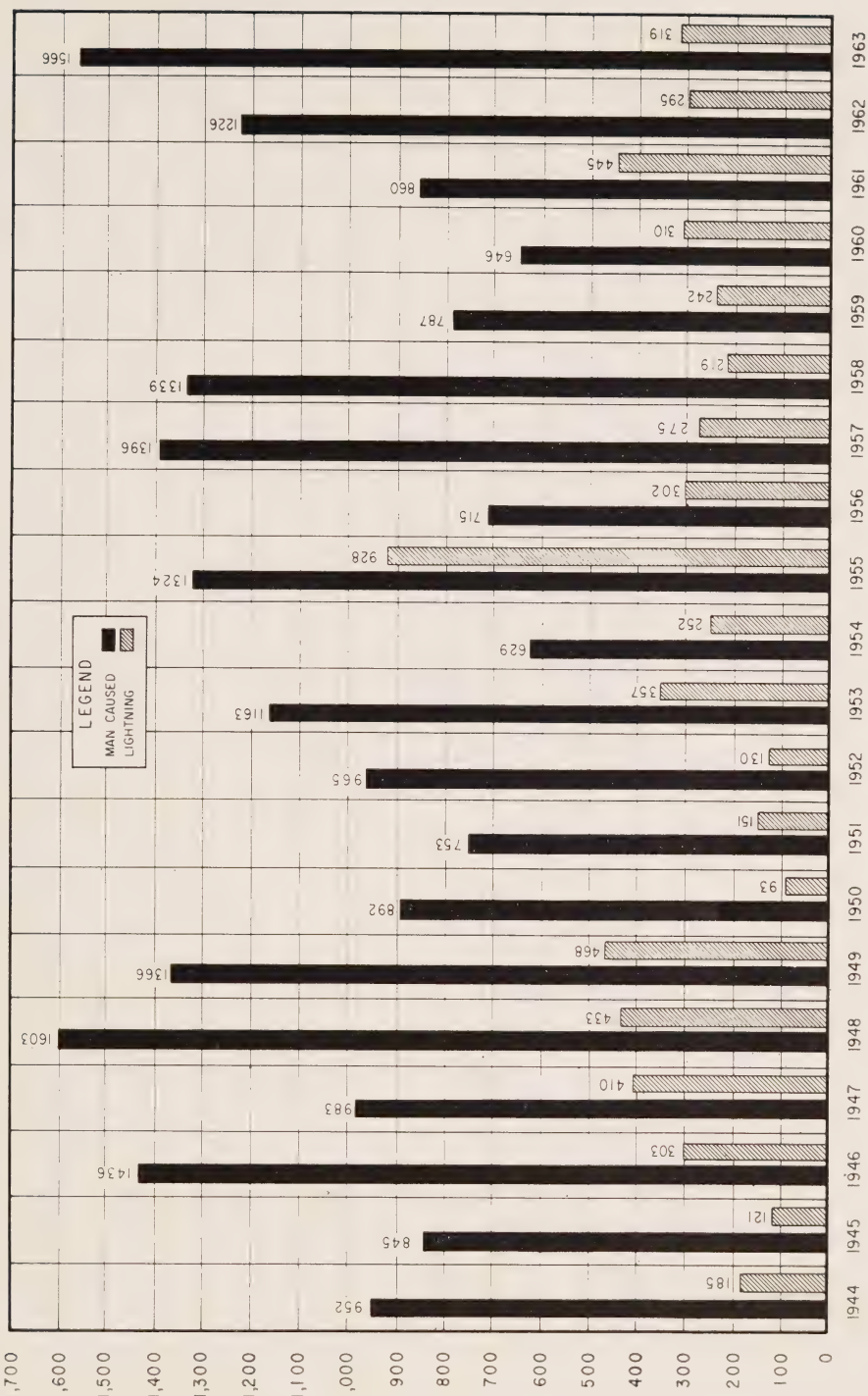
# ACREAGE BURNED BY FOREST FIRES IN ONTARIO FROM 1928 TO 1963

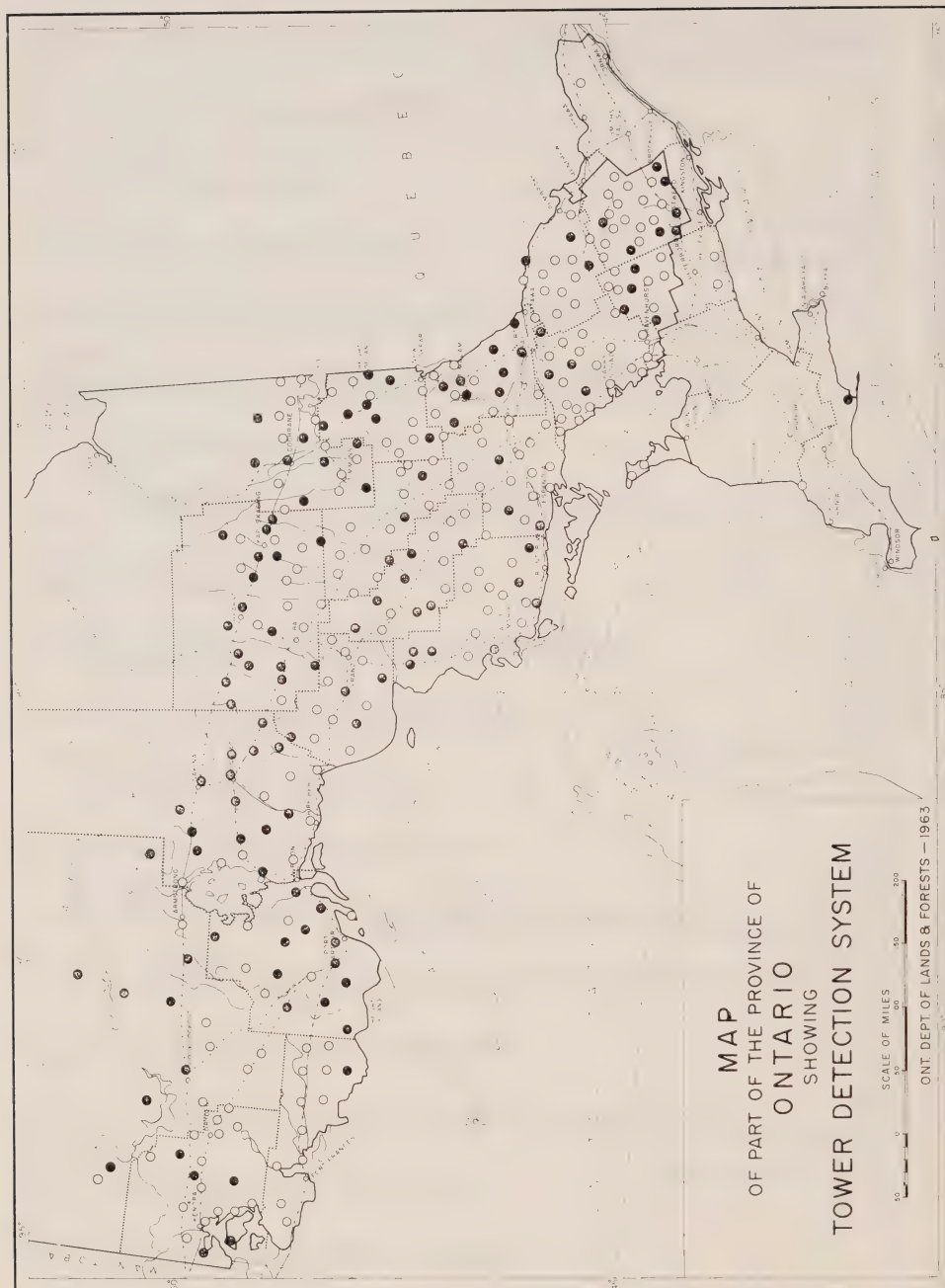


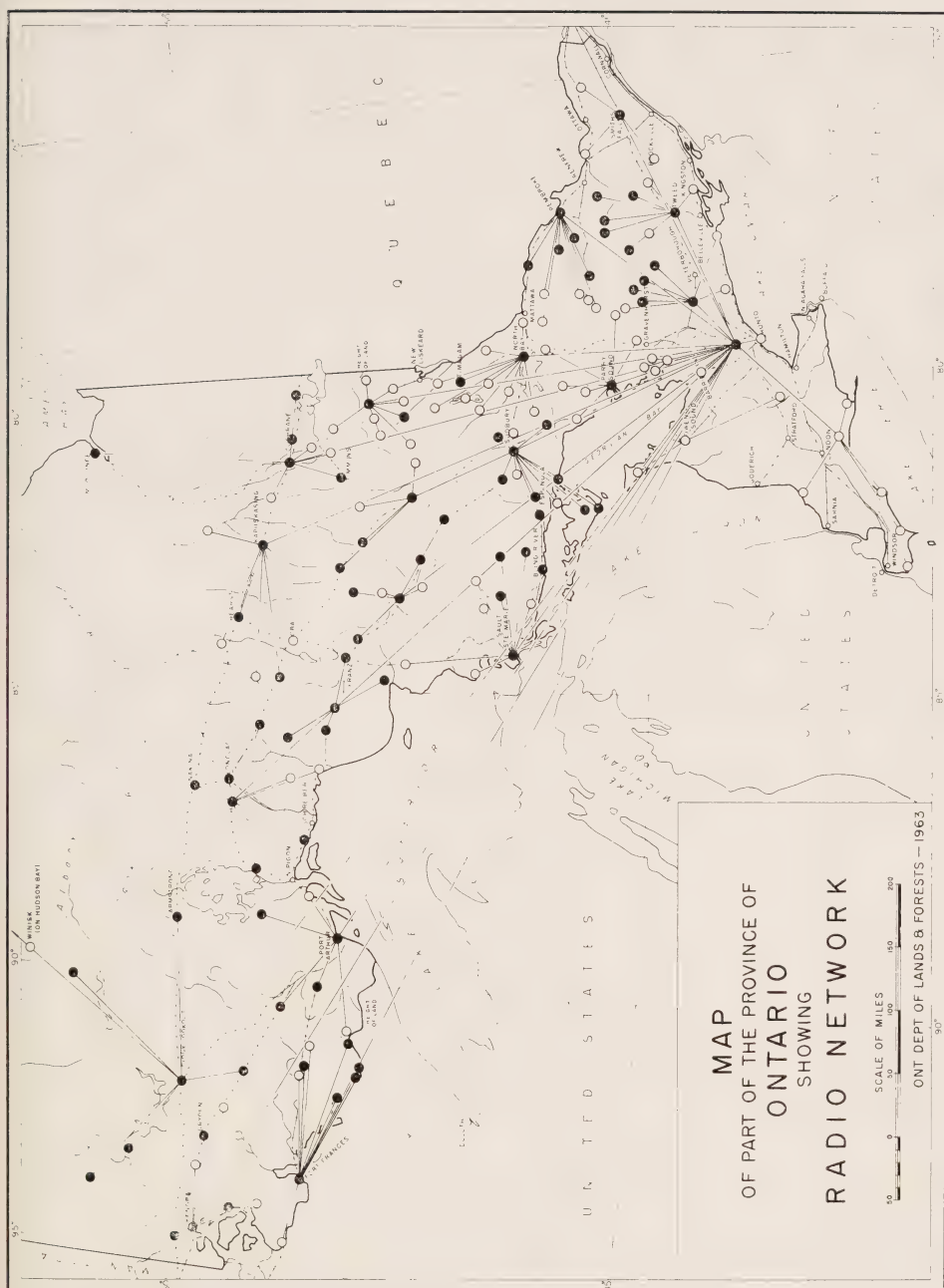


# NUMBER OF FIRES - MAN CAUSED AND LIGHTNING YEARS 1944 - 1963

NUMBER  
OF FIRES







# AIR SERVICE SECTION

1963-64

Flying operations were carried out from 28 bases during the fire season. Twelve of these bases provide year round flying service necessary in resources management work.

Total flying time for the year was 14,801 hours. Total passengers carried 39,287. Total loads carried 15,024,132 pounds. This was an increase of about fifteen per cent above average due to the long burning season which extended into November.

Five helicopters were again leased from May 1st to September 30th to provide transportation in fighting fires that occur in areas that are otherwise inaccessible.

Water dropping from tanks mounted on floats of both Beaver and Otter aircraft again played an important part in fire control operations.

The following tables provide further details on air operations:

Table 1

## OPERATING BASES, 1963-1964

District		Base	Type of Aircraft
Sioux Lookout	*	Sioux Lookout	Beaver
			Otter
		Ignace	Beaver
		Red Lake	Beaver
		Pickle Lake	Otter
Kenora	*	Caribou Lake (Armstrong)	Beaver
		Kenora	Beaver
			Otter
			Otter
Fort Frances	*	Fort Frances	Beaver
		Nym Lake (Atikokan)	Beaver
Port Arthur	*	Port Arthur	Beaver
			Otter
Geraldton	*	Geraldton	Otter
		Pays Plat	Beaver
		Twin Lakes (Nakina)	Beaver
Kapusksing		Remi Lake (Kapusksing)	Beaver
		Carey Lake (Hearst)	Beaver
		South Porcupine (Timmins)	Otter
Cochrane		Kenogami Lake (Swastika)	Beaver
Swastika			Beaver
Chapleau	*	Chapleau	Beaver
Gogama	*	Gogama	Beaver
Sault Ste. Marie	*	Sault Ste. Marie	Beaver
			Otter
			Beaver
Sudbury	*	Lauzon Lake (Blind River)	Beaver
		Sudbury	Otter (2)
White River		White River	Beaver (2)
North Bay		Temagami	Beaver
Parry Sound		Parry Sound	Beaver
Pembroke	*	Pembroke	Otter
	*	Algonquin Park	Beaver
Tweed		Tweed	Beaver
Toronto	*	Island Airport	Beaver (2)
			Widgeon

\* Denotes year round bases



Table II

## TRANSPORT AIRCRAFT

Transport Aircraft — Effective Loads Carried, 1963-64

Aircraft	Hours Flown		Effective Loads	
Beaver				
CF-OBS	356:40	123,136 lbs.	61 tons,	1136 pounds.
CF-OBY	381:50	217,235 lbs.	108 tons,	1235 pounds.
CF-OBZ	360:10	212,940 lbs.	106 tons,	940 pounds.
CF-OCA	263:20	153,031 lbs.	76 tons,	1031 pounds.
CF-OCB	388:30	252,990 lbs.	126 tons,	990 pounds.
CF-OCC	321:15	215,170 lbs.	107 tons,	1170 pounds.
CF-OCD	340:20	216,553 lbs.	108 tons,	553 pounds.
CF-OCE	360:00	329,542 lbs.	164 tons,	1542 pounds.
CF-OCG	251:25	133,477 lbs.	66 tons,	1477 pounds.
CF-OCB	456:55	349,843 lbs.	174 tons,	1843 pounds.
CF-OCJ	458:50	398,782 lbs.	199 tons,	782 pounds.
CF-OCK	387:20	208,870 lbs.	104 tons,	870 pounds.
CF-OCL	182:35	108,475 lbs.	54 tons,	475 pounds.
CF-OCN	380:35	225,539 lbs.	112 tons,	1539 pounds.
CF-OCO	393:35	267,715 lbs.	133 tons,	1715 pounds.
CF-OCF	338:50	158,060 lbs.	74 tons,	60 pounds.
CF-OCQ	392:45	159,783 lbs.	79 tons,	1783 pounds.
CF-OCS	354:45	213,025 lbs.	106 tons,	1025 pounds.
CF-OCT	430:20	193,795 lbs.	96 tons,	1795 pounds.
CF-OCU	367:50	224,860 lbs.	112 tons,	860 pounds.
CF-OCV	543:50	509,532 lbs.	254 tons,	1532 pounds.
CF-OCX	216:20	117,859 lbs.	58 tons,	1859 pounds.
CF-OCY	276:25	217,484 lbs.	108 tons,	1484 pounds.
CF-OCZ	323:10	289,545 lbs.	144 tons,	1545 pounds.
CF-ODA	149:40	115,815 lbs.	57 tons,	1815 pounds.
CF-ODB	493:20	198,536 lbs.	99 tons,	536 pounds.
CF-ODC	250:35	67,265 lbs.	33 tons,	1265 pounds.
CF-ODD	255:05	89,255 lbs.	44 tons,	1255 pounds.
CF-ODE	268:50	71,845 lbs.	35 tons,	1845 pounds.
CF-ODF	327:20	169,494 lbs.	84 tons,	1492 pounds.
CF-ODG	234:40	114,825 lbs.	57 tons,	825 pounds.
CF-ODO	104:50	12,750 lbs.	6 tons,	750 pounds.
CF-ODS	83:50	38,274 lbs.	19 tons,	274 pounds.
Otter				
CF-ODJ	408:30	414,350 lbs.	207 tons,	350 pounds.
CF-ODK	183:30	234,875 lbs.	117 tons,	875 pounds.
CF-ODL	411:25	944,935 lbs.	472 tons,	935 pounds.
CF-ODP	345:55	326,420 lbs.	163 tons,	420 pounds.
CF-ODQ	384:45	85,427 lbs.	42 tons,	1427 pounds.
CF-ODU	411:30	1,654,333 lbs.	827 tons,	333 pounds.
CF-ODV	580:45	429,275 lbs.	214 tons,	1275 pounds.
CF-ODW	458:10	1,061,170 lbs.	53 tons,	1170 pounds.
CF-ODX	412:00	795,802 lbs.	397 tons,	1802 pounds.
CF-ODY	331:35	1,666,087 lbs.	833 tons,	87 pounds.
Widgeon				
CF-ODR	177:10	36,260 lbs.	18 tons,	260 pounds.

Total Transport Section:—

Total Flying Time, Hours:	14,801:00
Total Loading, lbs.:	15,024,132 lbs.
Total Loading, tons:	7,512 tons, 230 pounds.

Table III

## HOURS FLOWN ON VARIOUS PHASES OF FLYING OPERATIONS

	1949-63	1963-64	Total
Fire Ranging (Detection and Suppression)	80,244:10	5,837:05	86,081:15
Timber Management .....	12,218:15	1,124:40	13,342:55
Fish and Wildlife .....	37,662:20	3,875:50	41,538:10
Lands .....	3,034:05	301:05	3,335:10
Parks .....	1,834:50	475:40	2,310:30
Interdepartmental Flying .....	5,178:55	560:00	5,738:55
Administration .....	40,898:35	2,626:40	43,525:15
	181,071:10	14,801:00	195,872:10

## BREAK-DOWN OF ADMINISTRATION

	1963-64
Mercy Flights .....	23:30
Tests (Radio and Aircraft) .....	113:55
Ferrying and Instructions .....	279:30
Research, Incl. Entomology .....	204:40
Forced Landings and Operations .....	232:30
Transportation Ordinary .....	1,162:40
Transportation Special .....	602:10
Photography .....	
Surveys .....	7:45
	2,626:40

Table IV

## PASSENGERS AND PERSONNEL CARRIED

	1924-63	1963-64	Total
Passengers Carried .....	588,691	33,742	622,433
Personnel Carried .....	165,897	5,545	171,442
Total Passengers and Personnel Carried .....	754,588	39,287	793,875
Effective Loads Flown, Lbs. ....	178,455,620	15,024,132	193,479,752 lbs.
Effective Loads Flown, Tons .....	89,227 tons 1,620 lbs.	7,512 tons 230 lbs.	96,739 tons 1,850 lbs.

Table V

## HOURS FLOWN AT BASES 1963-64

Base	Hours Flown
Algonquin Park .....	555:55
Carey Lake .....	391:45
Caribou Lake .....	402:05
Chapleau .....	458:15
Fort Frances .....	702:40
Geraldton .....	246:05
Gogama .....	495:40
Ignace .....	130:00
Kenogami .....	352:35
Kenora .....	733:05
Lauzon Lake .....	384:50
Nym Lake .....	345:00
Pays Plat .....	223:45
Parry Sound .....	323:05
Pickle Lake .....	360:05
Port Arthur .....	704:55
Pembroke .....	589:55
Red Lake .....	304:05
Remi Lake .....	472:40
Sault Ste. Marie .....	749:40
Sioux Lookout .....	914:15
South Porcupine .....	259:20
Sudbury .....	862:00
Temagami .....	342:50
Twin Lakes (Nakina) .....	209:05
Toronto .....	232:30
White River .....	553:45
Tweed .....	409:30
Air Service General, Operations, Testing, Ferrying, etc.....	2,091:40
	14,801:00

Table VI

## FLYING TIME — PILOTS

Pilots		1924-63	1963-64	Total
Allen	DW	3,236:20	548:35	3,784:55
Ballantyne	DE	2,262:00	369:00	2,631:00
Beaushene	GD	3,942:25	532:35	4,475:00
Bieck	AH	1,918:00	432:30	2,350:30
Burt	AE	8,597:00	448:45	9,045:45
Calver	DR	3,518:15	343:30	3,861:45
Campbell	GE	5,357:10	544:15	5,901:25
Colfer	AP	7,287:30	754:25	8,041:55
Cooke	TC	7,787:40	657:10	8,444:50
Cram	WW	1,489:10	339:10	1,828:20
Croft	BR	1,767:10	391:20	2,158:30
Croal	DM	2,169:55	554:20	2,724:15
Culliton	JE	260:50	496:25	757:15
Denley	JG	7,823:35	316:05	8,139:40
Evans	FB	4,720:05	418:55	5,139:00
Fiskar	UW	4,309:30	618:00	4,927:30
Glennie	NA	3,054:05	481:10	3,535:15
Hoar	HA	3,202:00	183:35	3,385:35
Hoeberg	PS	3,478:10	410:40	3,888:50
Howe	FR		100:50	100:50
Hugill	WA	2,793:00		2,793:00
Kincaid	J	8,043:55	432:10	8,476:05
Kirk	CJ	5,070:30	262:35	5,333:05
Lamont	JA	4,055:15	361:50	4,417:05
LeFeuvre	CJ	9,473:30	442:55	9,916:25
Lowe	B	1,783:50	254:05	2,037:55
MacDougall	FA	5,297:15	96:05	5,393:20
North	DH	1,462:20	264:50	1,727:10
Parsons	R	7,754:30	238:15	7,992:45
Pike	SJ	573:50	458:55	1,032:45
Poulin	LD	8,112:20	156:05	8,268:25
Reid	DM	4,891:05	397:20	5,288:25
Siegel	J	5,504:40	341:00	5,845:40
Speight	HC	8,390:35	583:10	8,973:45
Taylor	JM	3,587:50	39:35	3,627:25
Thomas	E	3,890:45	375:10	4,265:55
Thompson	FJ	3,052:15	440:55	3,493:10
Trussler	GE	7,874:20	308:25	8,182:45
Turcotte	LG	1,535:00	406:25	1,941:25
Other Pilots		187,033:15		187,033:15
		356,360:50	14,801:00	371,161:50



Table VII

FLYING TIME — AIRCRAFT

Aircraft	1924-63	1963-64	Total
<b>Beaver</b>			
CF-OBS	5,593:45	356:40	5,950:25
CF-OBY	4,025:05	381:50	4,406:55
CF-OBZ	4,743:55	360:10	5,104:05
CF-OCA	4,215:55	263:20	4,479:15
CF-OCB	5,051:10	388:30	5,439:40
CF-OCC	4,363:55	321:15	4,685:10
CF- OCD	4,027:20	340:20	4,367:40
CF-OCE	4,927:00	360:00	5,287:00
CF-OCG	3,815:10	251:25	4,066:35
CF-OCH	4,253:05	456:55	4,710:00
CF-OCJ	3,829:10	458:50	4,288:00
CF-OCK	4,254:15	387:20	4,641:35
CF-OCL	3,984:50	182:35	4,167:25
CF-OCN	4,667:10	380:35	5,047:45
CF-OCO	4,610:10	393:35	5,003:45
CF-OCP	5,106:25	338:50	5,445:15
CF-OCQ	4,877:25	392:45	5,270:10
CF-OCS	4,367:30	354:45	4,722:15
CF-OCT	4,604:45	430:20	5,035:05
CF-OCU	4,326:30	367:50	4,694:20
CF-OCV	3,787:35	543:50	4,331:25
CF-OCX	3,927:30	216:20	4,143:50
CF-OCY	3,752:30	276:25	4,028:55
CF-OCZ	2,928:10	323:10	3,251:20
CF-ODA	3,667:45	149:40	3,817:25
CF-ODE	4,073:50	493:20	4,567:10
CF-ODC	5,097:45	250:35	5,348:20
CF-ODD	1,207:30	255:05	1,462:35
CF-ODE	3,303:35	268:50	3,572:25
CF-ODF	3,376:55	327:20	3,704:15
CF-ODG	4,191:55	234:40	4,426:35
CF-ODO	848:35	104:50	953:25
CF-ODS	706:40	83:50	790:30
<b>Otter</b>			
CF-ODJ	2,948:55	408:30	3,357:25
CF-ODK	2,591:10	183:30	2,774:40
CF-ODL	2,802:35	411:25	3,214:00
CF-ODP	1,836:05	345:55	2,182:00
CF-ODQ	2,094:15	384:45	2,479:00
CF-ODU	841:55	411:30	1,253:25
CF-ODV	1,090:55	580:45	1,671:40
CF-ODW	572:20	458:10	1,030:30
CF-ODX	3:00	412:00	415:00
CF-ODY	2:00	331:35	334:25
<b>Widgeon</b>			
CF-ODR	1,583:40	177:10	1,760:50
All Other Aircraft	208,537:20		208,537:20
	355,419:45	14,801:00	370,220:45

Table VIII

## MERCY AND EMERGENCY FLIGHTS 1963-64

Date	Aircraft	Pilot	Journey	Time	Reason
Apr. 28/63	ODC	U. W. Fiskar	Lavielle Lake to Opeongo	:15	American tourist suffered heart attack and flown to medical aid.
May 15/63	ODC	U. W. Fiskar	Opeongo Lake to White Lake to Smoke Lake to Huntsville	1:10	American tourist suffered heart attack on portage and flown to Huntsville.
May 26/63	OCB	D. M. Reid	Nym Lake to McIntyre Lake to Prairie Portage	1:10	Man suffered diabetic attack and flown to Doctor.
July 1/63	OCB	D. M. Reid	Nym Lake to French Lake to Dore Lake to Nym Lake to Dore Lake to Nym Lake	1:00	American wife and children flown from Dore Lake after husband died crossing portage.
July 8/63	OCB	D. M. Reid	Nym Lake to McIntyre Lake to Cabin	:40	American boy suffered broken leg and flown out to medical aid.
July 11/63	OCY	U. W. Fiskar	Algonquin Park to Radiant Lake to Pembroke and return to Algonquin Park Base.	1:45	Woman suffered broken arm and flown out to Doctor.
July 11/63	OCV	G. E. Campbell	Gogama to S. Porcupine to Moray	:50	Woman suffered heart attack and flown to Hospital at South Porcupine.
June 24/63	IZH (Helicopter)	Holtendorp	Cochrane to Kennedy Township to Cochrane	:50	Woodcutter flown to Cochrane after suffering severe cut to leg.
July 28/63	OCV	G. E. Campbell	Gogama to S. Porcupine to Gogama	1:10	Young boy flown to S. Porcupine Hospital for medical treatment for cut leg.
Aug. 3/63	OCH	U. W. Fiskar	Cedar Lake to Fairway Lake to Smoke Lake	1:10	Boy suffered foot injury on canoe trip and flown to medical aid.
Dec. 26/63	OCV	G. E. Campbell	Gogama to Sudbury	1:40	Confinement case flown to Sudbury Hospital.
Jan. 28/64	OCV	G. E. Campbell	Gogama to S. Porcupine	1:05	Man taken to hospital with piece of steel in cheek.
Mar. 2/64	OCV	G. E. Campbell	Gogama to Sudbury to Gogama	1:35	Woman fell and taken to hospital for medical attention.

Table IX

HELICOPTER FLYING HOURS

HELICOPTER	HOURS FLOWN
CF-HER .....	347:15
CF-IZH .....	431:50
CF-ICG .....	320:05
CF-FHM .....	350:50
CF-MEK .....	123:05
CF-JFR .....	526:30
	<hr/>
	2,099:35

HOURS FLOWN ON VARIOUS PHASES OF FLYING OPERATIONS

SERVICE	HOURS FLOWN
Fire Ranging .....	1,603:30
Timber Management .....	187:05
Fish and Wildlife .....	77:10
Lands .....	7:00
Parks .....	11:25
Interdepartmental Flying .....	38:55
Administration .....	174:30
	<hr/>
	2,099:35

BREAK-DOWN OF ADMINISTRATION

Research .....	10:00
Mercy Flights .....	:50
Ferrying .....	163:40
	<hr/>
	174:30



**The Lands and Surveys Branch could not function adequately without skilled cartographers.**



**Surveying is an important subject on the curriculum of the Ontario Forest Ranger School, Dorset.**



## LANDS AND SURVEYS BRANCH

THE Branch is comprised of five sections with responsibilities and functions as follows:

### LANDS SECTION

Management of public lands including lands under water. Disposal by sale, patent, vesting order, quit claim deed, lease, licence of occupation or land use permit for many private, commercial, industrial, municipal or public uses; release of reservations in patents, assignments, cancellations. Reservation of land for parks, access points, other public and government uses.

### LAND USE PLANNING SECTION

Supervision of the preparation of Land Use plans. Wilderness Areas. Advisory Committee on Recreational Land Use Planning. Private Lands Liaison Committee.

### LAND ACQUISITION SECTION

Recommendations and applications for purchase of private lands for water access, hunting, fishing, forestry, recreation and other public uses.

### SURVEYS SECTION

Surveys and descriptions on Crown Lands for parks, Base and Meridian lines, summer resort and recreational purposes, lands for acquisition or disposition. Retracement surveys and restoration of original Crown survey points.

Inspection, recording and custody of original plans and field notes of Crown and Municipal surveys.

Map compilation. Authorization of Geographical Names.

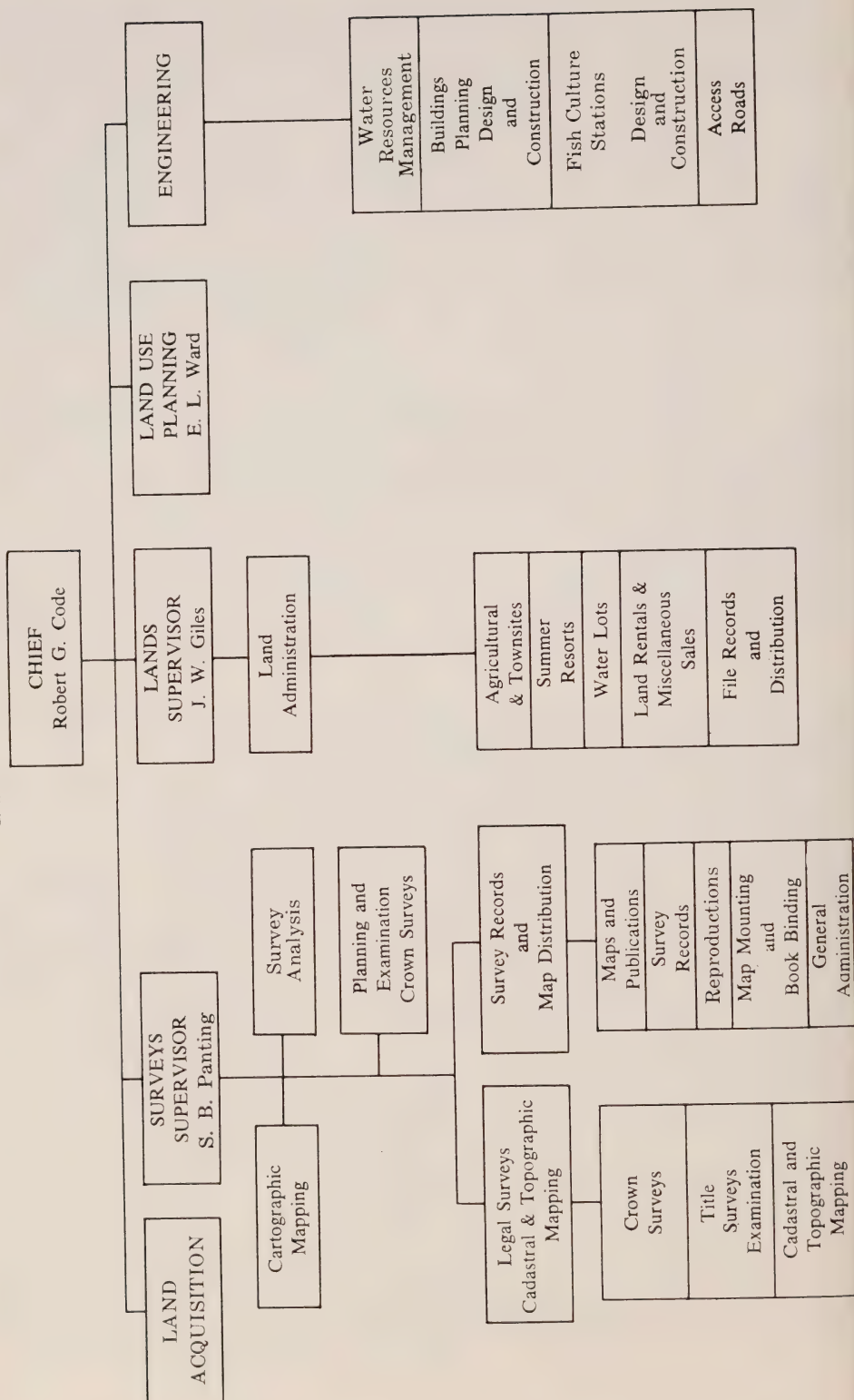
Distribution of maps, publications and copies of survey records.

Accounts payable, supplies and equipment.

### ENGINEERING SECTION

Approval of dams. Licences of occupation for dams, flooding and diversions. Water resource management. Issuance and servicing of Water Power Lease Agreements. Plans for buildings, renovation of plant and equipment. Engineering consultations. Access Roads.

# LANDS AND SURVEYS BRANCH



## LANDS SECTION

### SUMMER RESORT LANDS

Many new procedures have been established to keep pace with increased public interest in outdoor recreation.

Total planning is now carried out by the Districts leading to the designation of best use for all lands surrounding lakes. Section 2 (a) of The Public Lands Act requires retention of 25 per cent of the shoreline for public access and recreation. The best land is selected for this purpose. Lands suitable for cottage sites are next selected and set aside for future development.

All remaining Crown Land fronting on the Great Lakes, including islands, has been withdrawn from disposition pending the preparation of detailed Land Use Plans by the Districts affected. These plans will provide for orderly development of suitable areas and will safeguard the future public needs for access and recreation.

Where the demand for land is great, sale of summer cottage lots and leasing of commercial sites is by public auction. This method provides an equitable method of disposing of such lands and has been favourably received by the public.

### AGRICULTURAL LAND

Since the enactment of Section 43B of The Public Lands Act on March 29, 1961, procedures established for Crown agricultural lands disposition has shown favourable results.

The former Sections 44 to 61 of The Public Lands Act provided for free grants of public lands for settlement purposes to actual settlers, former members of the Forces and for sales of such lands to other persons. Departmental requirements as to an applicant's eligibility to obtain lands were minimal. Soil-testing was not mandatory and purchase price in the case of sales was 50¢ per acre up to 1960, when the price was increased to \$2.00 an acre. These Sections were repealed when Section 43B was enacted.

Section 43B requires the appointment of a Public Agricultural Lands Committee by the Minister. Co-ordination with the Department of Agriculture is assured by the appointment of the Assistant Deputy Minister of that Department and the local agricultural representative in the area from which the application is received.

The duties of the Committee are to recommend to the Minister areas deemed suitable for disposition for agricultural use, to consider applications for such lands and to make recommendations to the Minister with respect to such applications.

Having considered the recommendations of the Committee, the Minister may designate areas of lands that are suitable for disposition for agricultural use and enter into agreements for sale or other disposition with approved applicants.

The recommendations of the Committee are based on the suitability of the lands for the intended use, the demonstrated ability of an applicant and the economic feasibility of the proposed operation. Modern farming operations require a substantial capital investment in stock and machinery.

The results of application of Section 43B during the past year show the public interest to be suitably protected by ensuring that maximum farming utilization of any lands sold under that Section may be expected.

## SPECIAL LAND USES

The vast rugged stretch from Kenora to the upper reaches of the Ottawa River is very attractive to tourists as well as to commercial travellers. Highway 17, a high-speed route, allows many miles to be travelled in a day, with a myriad of picture post-card scenes.

The demand for gasoline stations, motels, grocery stores and campsites has opened many opportunities for those who are willing to set up business on our northern highways. New highways are being opened through hitherto inaccessible wilderness and this has opened new frontiers for the suppliers of goods and services. The Department makes available the suitable commercial sites needed to satisfy public demand. In many cases, locations are offered for lease by tender in order that the best possible services will be provided in the shortest time, and with a fair return to the Province.

As the demand for services is being answered, communities which have heretofore been considered remote are themselves seeking more social amenities. One of these is television, which is being piped via microwave relay systems. The trend toward the use of microwave transmission has made some of the Department's fire lookout tower sites extremely desirable because of their strategic locations. Agreements are being made with the various communication companies which allow them to construct towers on these sites.

## TOWNSITES

As a result of substantial increases in secondary road and highway construction throughout the Province, the sale of townsite lots has shown an increase over those of the previous year. It is expected that this trend will continue as more adequate access facilities are driven deeper into the northern areas to reach hitherto inaccessible townsites.

Working in close co-operation with this Department and other departments of government, many municipalities are now procuring townsite lots from the Crown to aid in their municipal improvement programs which include such projects as the enlarging of municipal park areas and the relocation and expansion of municipal buildings and recreational facilities.

A number of communities where substandard water and sewage facilities exist throughout the Province are being studied by both the Department of Lands and Forests and the Department of Municipal Affairs. In an endeavour to clear up areas which constitute a health hazard or serve to lower the standards of living in these localities, many areas are being placed under restrictive orders which control disposition of lots in these townsites.

The most significant progress to date has been made in the former townsite of Brunetville which was annexed to Kapuskasing. The residents of the townsite have been issued Land Use Permits as a temporary measure authorizing their occupancy pending provision of services such as roads, sewers and Hydro.

After further studies are completed, it is expected that the situation in several other townsites where similar problems exist can be greatly improved to the benefit of the residents, the community and the Province.

## OLD CLAIMS (60 Years' Possession Adverse to the Crown)

Thirty-three Quit Claim Patents issued to persons claiming through right of 60 years possession adverse to the Crown. Fifty-one cases are currently under investigation.



## WATER LOTS

As the establishment of industry along the Great Lakes continues, a number of water lots have been leased to provide for docks, water supplies, and in some cases land for expansion of plant.

The past few years has also seen an increase in the use of all our waterways by the boating enthusiast, with the result that a number of marinas have been established under water lot authorities issued by the Department.

Commencing January 1, 1964, all rental rates covering water lots, private and commercial, were reviewed and licences are being brought in line with rental rates provided by the present Regulations. As a result, the Department will realize an increase in its revenue from this source.

## THE ONTARIO-DOMINION AGREEMENT — THE VETERANS' LAND ACT (CANADA)

No new transactions were entered into under the Agreement which will remain in effect until 1968. Provincial requirements relating to sales previously concluded under the Agreement were satisfactorily met resulting in the issuance of patent for two agricultural locations and three small holdings.

## GENERAL

Provision was made to permit camping on Crown Lands where facilities are not provided by the Province. Land may be used for periods up to three weeks without charge. Where land is to be used for longer than three weeks by individuals, groups or tourist outfitters for tent camps, a fee of \$10.00 was established.

In co-operation with the Department of Highways, the policy for leasing sites adjacent to roads for the erection of advertising signs was changed to provide for the issuance of only one permit. Two permits were formerly required, one from each Department. Permits for sites adjacent to King's Highways and secondary highways are issued by the Department of Highways. Permits for the use of Crown Land adjacent to all other roads are issued by Lands and Forests.

Provision was made to permit the sale of land held under Crown lease for Commercial purposes at any time after completion of prescribed building and other conditions.

The method of leasing and selling Crown land by tender was improved by setting a detailed procedure, a form of invitation to tender, instructions to tenderers, tender form and a prospectus and sketch or plan of the land to be tendered.

The graphs and tables following show the total number of transactions concluded. The increase over the previous year in the number of cancellations of agricultural sales is the result of improved inspection methods. The decrease in the number of cancellations of summer resort and townsite sales is largely due to better liaison with purchasers and an improved follow up procedure. The number of summer resort sales has declined.

## LAND USE PLANNING SECTION

Many people think of Land Use Planning only in terms of the best use of the land for the production of agricultural crops. While the production of agricultural crops has to be given a high priority, there are other uses of land (including the water) which are very important to Ontario's economy and to the well being of her citizens. These are the renewable natural resources—timber, fish, wildlife and that intangible but very important resource—recreation.

It is the responsibility of the Department of Lands and Forests to manage these resources on public lands and to guide their management on private lands. Planning for this management is what is meant by Land Use Planning in the Department of Lands and Forests. So it can be seen that Land Use Planning within the Department of Lands and Forests has a much more comprehensive meaning than is often the case with other organizations or government departments.

## LAND USE PLANS

Land use plans must be made area-wise so for the purposes of planning within the Department a plan is made for each of the 22 Forest Districts in the Province. The method of planning is co-ordinated by the Land Use Planning Section and the management itself is co-ordinated through the Regional Foresters and Directors and the Head Office branches.

At present, 11 of the 22 Districts have submitted Land Use Plans for approval and the remaining 11 are in various stages of preparation. When all the plans are submitted, we shall have a Land Use Plan for the management of the province's renewable natural resources (exclusive of agriculture). This plan is not a static document, which once completed remains as the inflexible rules for management, but is a dynamic guide which changes with changing conditions—social, economic and technological. Thus the plans are vital and subject to change but always act as a check before any actual change in management is made.

## PRIVATE LANDS LIAISON COMMITTEE

This committee is made up of three members of the Department of Agriculture and three members of the Department of Lands and Forests. Its purpose is to discuss problems common to each Department and recommend solutions to both Ministers. Nothing was presented for the committee's consideration; therefore, it did not meet during the past year.

## RECREATIONAL LAND USE PLANNING

In each District north of and including the Parry Sound and Pembroke Districts is an advisory committee made up of the District Forester as chairman, the local Member of Parliament, a representative of the logging industry, a representative of the Federation of Anglers and Hunters and a representative of the Tourist Outfitters. These committees meet at least once a year to discuss recreation plans in the districts concerned and make recommendations arising out of the discussions to the Minister.

During the past year, a change was made in the organization and personnel of the Parry Sound District committee. Instead of the one committee, two committees have been set up corresponding to the electoral boundaries within the Forest District, with additional membership in each committee giving representation to cottagers' associations, the Chamber of Commerce and the Association of Municipal Councils.

A report is received from each of the 16 districts with the committee's recommendations. These are considered by the Minister and, if approved, are implemented. Many useful recommendations are received each year.

## Wilderness Areas

There are now 37 wilderness areas set aside under the Wilderness Areas Act of 1959. Of these, one new area was set aside during the fiscal year, i.e. The

Pukaskwa Wilderness Area. This wilderness area is located in the White River Forest District and contains approximately 600,000 acres. This is by far the largest wilderness area in the province and was set aside because of the inaccessibility of the interior and its unexcelled scenic beauty and the hunting and fishing potential.

In addition to the areas which have been set aside, there are a number of areas which are being considered, these being largely what we are calling Nature Reserves or reference areas. These are being recommended for their scientific and biological interest.

## LAND ACQUISITION SECTION

This year, the program of the Department to acquire private lands to provide public access to water and lands for hunting, fishing, forestry and recreation, was carried out by staff temporarily seconded from other branches. Following the establishment of an inventory of about 500 properties totalling nearly one million acres, the work of preparing applications for land purchase was commenced.

About 90 per cent of the land proposed to be acquired in the present inventory is located in the southern part of Ontario where the need for recreational land is greatest. Much of the land, when acquired, will be developed for multiple forestry-use management which includes reforestation of submarginal agricultural lands, production of raw materials (mainly wood), management of wildlife for fishing and hunting purposes, conservation and control of water supply, preservation of natural aesthetic and scenic values of the land and countryside for the enjoyment of present and future generations.

Fifty applications totalling over  $\frac{1}{4}$ -million acres were in process at year-end. The figures exclude lands for provincial parks which are dealt with under Parks Branch elsewhere in the report.

Other departments chiefly concerned with the program are Public Works, regarding negotiations for purchase with land owners, and Agriculture, regarding lands eligible under the terms of the Federal-Provincial ARDA Agreement. The jurisdiction and control of a number of properties surplus to the requirements of the Department of Highways were transferred to the Department. These will be managed under suitable departmental programs.

Areas were acquired in the townships of Tiny, St. Edmunds and in the townships of Murray, Brighton and Seymour for wildlife management and public hunting totalling about 5,300 acres. A 1,200-acre parcel on Sturgeon Bay south of the Lakehead in Blake Township was acquired to provide public access to the west end of Lake Superior. About 3,000 acres acquired in five locations throughout southern Ontario will provide lands essentially for forest management. A number of smaller properties were purchased for rights-of-way, tower-sites, nursery extension and other needs in connection with departmental programs.

## SURVEYS SECTION

During the year, priority was given to the production of the base drawings for map folder number R. 163 "Recreational Areas and Parks within a 50 mile radius of Metropolitan Toronto" on a scale of four miles to the inch. A special envelope for the enclosure of the map folder for mailing purposes was also designed and prepared. Over 278,000 copies were mailed to 1962 registered car owners in the Metropolitan Toronto area, south of highway 401. Others were distributed



upon request. This map folder was very well received by the general public, who found it to be a very useful guide.

Base maps were prepared for Map Number 23 (replacing Map Number 23A) "District of Thunder Bay" of the territorial series, scale eight miles to one inch and reproduced for distribution. This map, prepared similar to the others of this series, shows populated centres by status symbols and other features as detailed in the following report.

The subdivision survey program was reduced during the fiscal year over that of the previous year, with 801 lots being registered on 73 plans of subdivision. In addition to the subdivision surveys, 138 individual surveys were completed in areas where registered plans of subdivisions were not available. This was approximately one third of the number surveyed the previous fiscal year. Instructions were issued for the surveying of 813 summer cottage lots.

To preserve the original Crown survey fabric of the province, which is rapidly becoming obliterated the long range program of retracement surveys and the restoration of original Crown survey points by remonumenting with permanent survey monuments, instructions were issued for the retracement of approximately 243 miles of original survey lines. 214 miles were completed during the year along with 21 miles in connection with Crown subdivision surveys. Special instructions were issued to 49 individual Ontario Land Surveyors in private practice for the restoration of original Crown survey points.

## Surveys

### SPECIAL RETRACEMENT SURVEYS

1. Retracement survey of the road allowance between Lots 15 & 16, 20 and 21, 25 & 26, across Concessions 5-10, Township of Anstruther, County of Peterborough. (Cancelled).
2. Retracement survey of part of the westerly boundary, Township of Ballantyne, District of Nipissing.
3. Retracement survey of the west limit of Lot 6, Concession 1 & 2, Township of Burwash, District of Sudbury.
4. Retracement survey of the south boundary, Township of Bristol, District of Cochrane.
5. Retracement survey of part of the south boundary, Township of Cascaden, District of Sudbury.
6. Retracement survey of the east boundary, Township of Drury, District of Sudbury.
7. Retracement survey of the west boundary, Township of Dorion, District of Thunder Bay.
8. Retracement survey of part of the north boundary, Township of Darling, County of Lanark.
9. Retracement survey of the road allowance, Concessions 4 & 5, Township of Dungannon, County of Hastings.
10. Retracement survey of part of the north boundary, across Lots 1-20, 31-34, Township of Denbigh, County of Lennox and Addington.
11. Retracement survey of part of the west boundary, Township of Ennismore, County of Peterborough.



12. Retracement survey of the north boundary, Township of Farrington, District of Rainy River.
13. Retracement survey of the westerly boundary of Algonquin Provincial Park, Township of Finlayson, District of Nipissing.
14. Retracement survey of part of the south boundary, Township of Franklin, District of Muskoka.
15. Retracement survey of part of original road allowance for a road between Concessions 4 & 5, across Lots 15-19, Township of Lavant, County of Lanark.
16. Retracement survey of the boundary between the Townships of Lawrence and Livingstone, County of Haliburton.
17. Retracement survey of the south boundary, Township of Lawrence, County of Haliburton.
18. Retracement survey of part of the south boundary, Township of Lindsay, County of Bruce.
19. Retracement survey of the boundaries of the original allowance for road, between Concessions 9, 10, 11 & 12, Lots 1-10, Township of Morrison, District of Muskoka.
20. Retracement survey of the north boundary, Township of Monmouth, County of Haliburton.
21. Retracement survey of part of the east boundary, Township of Mayo, County of Hastings.
22. Retracement survey of the east boundary, Township of Monteith, District of Parry Sound.
23. Retracement survey of the south boundary, Township of Marmora, County of Hastings.
24. Retracement survey of the east boundary, Township of Macaulay, District of Muskoka.
25. Retracement survey of part of the north boundary, Township of McTavish, District of Thunder Bay.
26. Retracement survey of part of the north boundary, Township of McClintock, County of Haliburton.
27. Retracement survey of the south boundary, Township of McArthur, District of Timiskaming.
28. Retracement survey of the east boundary, Township of Ogden, District of Cochrane.
29. Retracement survey of the boundaries of the original allowance for road between Lots 10 and 11, across Concessions 3, 4, 5 & 6, Township of Peck, District of Nipissing.
30. Retracement survey of the north boundary, Township of Prince, District of Algoma.
31. Retracement survey of the south boundary, Township of Prince, District of Algoma.
32. Retracement survey of the north boundary, Township of Pellatt, District of Kenora.
33. Retracement survey of the boundaries of the original allowance for road between Concessions 6 & 7, Township of Ryde, District of Muskoka.
34. Retracement surveys, Township of Sheffield, County of Lennox and Addington.

35. Retracement survey of the east boundary and the road allowance between Concessions 6 & 7, Lots 30 & 31, Township of South Canonto, County of Frontenac.
36. Retracement survey of the line between Lots 10 and 11, Concession 6, Township of Trill, District of Sudbury.
37. Retracement survey of the boundaries of the original allowance for road between Concessions 19 & 20, across Lots 21-27, Township of Wood, District of Muskoka.
38. Retracement survey of the north boundary, Township of Waters, District of Sudbury.
39. Retracement survey of the line between Concessions 4 & 5 across Lots 1-10, Township of Watten, District of Rainy River.
40. Retracement survey of part of west Boundary, Township of Waters, District of Sudbury.

### SUMMER RESORT SUBDIVISION SURVEYS

1. Twelve Mile Bay, Township of Freeman, District of Muskoka.
2. Ivanhoe Lake, Township of Ivanhoe, District of Sudbury.
3. Polly Lake, Township of Ledger, and Lands to the south of, District of Thunder Bay.
4. A—Dog Lake, North of Township of Fowler,  
B—Dog Lake, Township of Fowler,  
C—Obonga Lake, south of the 6th baseline and west of the Nipigon Provincial Forest,  
D—Middle Shebandowan Lake, Township of Hagey, District of Thunder Bay.
5. Northern Light Lake, west of Township of Jean, District of Thunder Bay.
6. A—Lake Nipissing, Township of Loudon,  
B—Lake Nipissing, Township of Caldwell, District of Nipissing.
7. A—Matheson Bay, Lake of the Woods, Township of Morson,  
B—Swell Bay of Rainy Lake, Township of Halkirk,  
C—Seine Bay of Rainy Lake, south of Township of Farrington,  
D—Swell Bay of Rainy Lake, Township of Halkirk, District of Rainy River.
8. Eels Lake, Township of Anstruther, County of Peterborough.
9. Cope Lake, Township of Cardiff, County of Haliburton.
10. Papacomeko Lake, Township of McArthur, District of Timiskaming.
11. A—Island "C", French River, Township of Mason,  
B—Wolseley Bay, French River, Township of Scollard, District of Sudbury.
12. Raven Lake, Township of McFadden, District of Timiskaming.
13. A—Butler Lake, Township of Black,  
B—Watabeag Lake, Township of Nordica, District of Timiskaming.
14. A—Berry Lake, Township of Devonshire,  
B—Kakagi Lake, North of Township of Godson, District of Kenora.
15. A—Eagle Lake, Township of Temple,  
B—Wabigoon Lake, Township of Southworth,

- C—Willard Lake, Township of MacNicol,  
D—Little Gordon Lake, north of Township of Tustin, District of Kenora.
- 16. Troutspaw Lake, Township of Livingstone, County of Haliburton.
- 17. A—Island 25A, Georgian Bay, Township of Harrison,  
B—Island 11A, Township of Harrison,  
C—Parts of Lots 18 and 19, Concession 8, Township of Conger,  
D—Part of Lot 25, Concession 9, Township of Conger,  
E—Part of Lots 24 and 25, Concession 8, Township of Conger, District of Parry Sound.
- 18. A—Echo Bay, Lake of the Woods, south of Township of Boys,  
B—Roughrock Lake, north of Township of Pelican,  
C—Shoal Lake, Township of Glass,  
D—Shoal Lake, Township of Glass,  
E—Caribou Lake, Township of Boys, District of Kenora.
- 19. A—Healey Lake, Township of Conger,  
B—Healey Lake, Township of Conger,  
C—Island B415, Georgian Bay, Township of Cowper, District of Parry Sound.
- 20. Onaping Lake, Township of Ulster, District of Sudbury.
- 21. South Muldrew Lake, Township of Muskoka, District of Muskoka.
- 22. A—Part of Lot 48, Concession 9, Township of Carling,  
B—Island 264C, Georgian Bay, Township of Carling,  
C—Parts of Lots 39 and 40, Concession 11, Township of Carling, District of Parry Sound.
- 23. A—Pine Lake, Township of McConkey,  
B—French River, Township of Hardy,  
C—Rock Island, Sollman Lake, Township of Chapman, District of Parry Sound.
- 24. A—Key River, West of Township of Mowat,  
B—Harris Lake, Township of Wallbridge,  
C—Harris Lake, Townships of Wallbridge and Harrison, District of Parry Sound.
- 25. Mackie Lake, Township of Miller, County of Frontenac.
- 26. A—Papineau Lake, Township of Bangor,  
B—Little Papineau Lake, Township of Wicklow, County of Hastings.
- 27. Clarendon Lake, Township of Clarendon, County of Frontenac.
- 28. Green Lake, Township of Brougham, County of Renfrew.
- 29. A—Little Russell Island, Lake of the Woods, Township of McGeorge,  
B—Storm Bay, Lake of the Woods, Township of Kirkup, District of Kenora.
- 30. Part of an Island in Hay Lake, Township of Sabine, District of Nipissing.
- 31. Kama Bay, Lake Superior, Townships 90 and 91, District of Thunder Bay.
- 32. Selim Lake, Township 85, District of Thunder Bay.

## SUMMER RESORT SURVEYS

Administrative Districts	Individual Parcels		Subdivision Plans Crown Surveys	Total
	Crown Survey	Private Survey		
Chapleau		1	20	21
Cochrane			11	11
Lake Erie				
Fort Frances		20	3	23
Geraldton		2	35	37
Gogama				
Lake Huron				
Kapukasing				
Kenora		30	104	134
Lindsay		1	31	32
North Bay		7	7	14
Parry Sound		26	289	315
Pembroke			3	3
Port Arthur		1	43	44
Kemptville				
Sault Ste. Marie		4		4
Lake Simcoe		1		1
Sioux Lookout		3		3
Sudbury		25	175	200
Swastika				
Tweed		17	80	97
White River				
<b>TOTALS:</b>		138	801	939

The above includes 73 Plans of Subdivision containing 801 lots.

## MUNICIPAL SURVEYS

1. Establish the position of the line between Concessions 3 and 4, the rear corners of Lots 21 to 25, Concession 3 and the front and rear corners of Lots 21 to 26 in Concession 4, East of the Bury Road, Township of Albermarle, County of Bruce.
2. Establish the front corners of Lots 5 to 9, Concession 10, Township of Bathurst, County of Lanark.

## MISCELLANEOUS SURVEYS

1. Improvement surveys within the boundaries of the following parks:

### *Lake Erie District*

Long Point Park  
Clay Creek  
Holiday Beach  
Ipperwash  
John E. Pearce  
Pinery  
Rondeau  
Turkey Point

### *Lindsay District*

Mark S. Burnham  
Serpent Mounds  
Balsam Lake

### *Lake Simcoe District*

Mara Township  
Wasaga Beach

### *Parry Sound District*

Oastler Lake



*North Bay District*

Antoine  
Marten River  
Samuel De Champlain

*Swastika District*

Esker Lakes  
Kap-Kig-Iwan

*Cochrane District*

Kettle Lakes

*Kapuskasing District*

Remi Lake

2. Survey east part of Lot 5, Concession 3, Township of Fauquier, District of Cochrane.
3. Survey a parcel of land containing 9 acres, in broken lots 47 & 48, Concession 8, Township of Carling, District of Parry Sound.
4. Resurvey of locations H.O. 22 and H.O. 23, parts of broken Lot 2, Concession 5, Township of Bigwood, District of Sudbury.
5. Survey for registration, Lots 45, 46 & 47, Concession 14, Township of Wall-bridge, District of Parry Sound.
6. Survey of the limits of a road right-of-way, Township of Petawawa, County of Renfrew.
7. Survey investigations, Townships of Bathurst, Sherbrooke and Bastard, Counties of Lanark, Haldimand and Leeds.
8. Survey of a right-of-way, Nicolston Dam, Lot 1, Concession 5, Township of Essa, County of Simcoe.
9. Survey investigations in Cordova Lake, Township of Belmont, County of Peterborough.
10. Resurvey summer resort location A.E. 642, in Lot 5, Concession 3, Township of Servos, District of Sudbury.
11. Survey the boundaries of the Dryden Nursery, Township of Zealand, District of Kenora.
12. Survey in location K-75, Shoal Lake, District of Rainy River.
13. Survey a Tower Site in Lot 4, Concession 5, Township of Holland, County of Grey.
14. Survey a road right-of-way through Lot 23, Concessions A & B, Township of Clara, County of Renfrew.
15. Survey a right-of-way, Lot 13, Concession C, Township of Widdifield, District of Nipissing.
16. Survey a right-of-way and part of Lots 14 & 15, Concession 15, Township of Wylie, County of Renfrew.
17. Survey Lots 16, 17 and 18, Concession 3, Jesuit Fathers, Township of Tay, County of Simcoe.
18. Survey a dam site, Saugeen River, Town of Durham, County of Grey.
19. Survey the boundaries of forfeited lands, Lot 19, Concessions 14 & 15, Township of O'Brien, District of Cochrane.
20. A—Survey of Sauble Beach Provincial Park, Township of Amabel, County of Bruce.  
B—Survey of Sibbalds Point Provincial Park, Georgina Township, County of Simcoe.
21. Restoration and preservation by permanent monuments of original Crown Survey Points found by surveyors while carrying out surveys on privately owned lands. Standard instructions issued to 49 Ontario Land Surveyors in private practice for the restoration of 705 points.

# Cadastral and Topographic Mapping

## PLANIMETRIC DETAIL MAPS

The following detailed planimetric plans and maps were completed:

Area or grid Maps .....	78	Township Maps .....	10
Composite Plans .....	6	Miscellaneous Plans .....	66
Part Lot Plans .....	115	Field Note Pages .....	40
Water Lot Plans .....	11	Annulment of Township Subdivisions	
		Partially .....	17
		Completely .....	13

## General Administration, Survey Records and Map Distribution

A decrease is to be noted in the overall distribution figure of all maps in comparison with the quantity distributed the previous fiscal year. This is mainly due to the public requesting lithographed maps in the areas not covered by the 1:50,000 or 2 mile to one inch map series. White prints of the areas mapped at ½ mile to one inch were substituted. It is also due to the fact that our stock of the Provincial series of lithographed map sheets on the scale of 2 miles to one inch was depleted and those required for district offices had to be ordered direct from the Department of Mines and Technical Surveys in Ottawa, which figures are not included in this report.

A total of 18,722 copies of lithographed district and miscellaneous maps produced by this department were distributed, of which 1,761 copies were for the "official use" of this and other departments of the provincial and federal governments (see "Trend of Map Distribution Chart").

The map sheets of the National Topographic Series, produced and distributed by the Federal Department of Mines and Technical Surveys, as well as the sheets produced by the Army Survey Establishment Bureau of the Department of National Defence, Ottawa, for resale purposes, or for the "official use" of this and other departments of the Ontario Government were distributed in the total quantity of 34,160 copies (see "Trend of Map Distribution Chart"). Of the total distributed, 13,119 copies were supplied for the "official use" of this Department, including district offices, by the Department of Mines and Technical Surveys without charge.

The demand for copies of the Lake Simcoe and Trent Canal Nautical (Marine) charts published by the Canadian Hydrographic Service, Ottawa, has decreased; 284 copies were distributed but this figure is not shown in the total overall map distribution figure.

Nine-thousand, five-hundred and twenty-five (9,525) copies (see "Trend of Map Distribution Chart") of the Provincial Topographic Series, on the scale of two miles to one inch were distributed.

The summary of the total quantity of lithographed map sheets distributed is as follows:

National Topographic Series .....	43,685
Map No. 20 .....	652
District Maps .....	8,255
Map No. 33A—Electoral .....	313
Map No. 28 —Geographical Townships .....	403
Miscellaneous Maps .....	9,100
Total .....	62,408

A decrease of 100 “over the counter” individual cash sales was noted against that of the previous fiscal year, for a total of 8,100 transactions for the sale of lithographed map sheets, reproductions of survey records and other maps and plans. Seven-hundred and thirty-two counter invoices for items sent out on credit were issued, being a decrease of 38 as compared to last year. Nine thousand (9,000) letters of request from the public, covering similar transactions, were processed.

## REPRODUCTIONS

Forty-eight thousand, four hundred and ninety-seven (48,497) square feet of photographic reproduction paper was used for reproductions of maps and survey records for departmental work, the survey branches of the Ontario Hydro-Electric Power Commission and the Ontario Department of Highways, other provincial government departments and commissions, Ontario Land Surveyors and the general public.

The amount of sensitized paper used in the reproduction of various topographic map tracings, Crown Land tracings and township prints, Georgian Bay Island map sheets, subdivision and summer resort plans of surveys, as well as other miscellaneous plans, by the dry process reproduction method, was reduced this year. A total of 331,490 square feet of sensitized paper and linen was consumed.

A summary of the dry process material used, is as follows:

Blue or black line paper.....	322,220 Sq. Ft.
Transparent linen 1980 .....	
Transparent plastic—1260.....	3,240 Sq. Ft.
Opaque linen .....	6,030 Sq. Ft.
Total .....	331,490 Sq. Ft.

Reproductions required for mapping projects for this branch and various district offices, to be produced photographically by commercial firms, are not included in the above figures.

## MAP MOUNTING AND BOOKBINDING

The following work in addition to other miscellaneous projects was handled by the map mounting and bookbinding staff maintained by this Section for departmental requirements including the preservation of old survey plans.

### Map Mounting

#### New plans mounted

Summer Resort Subdivision and Composite.....	241
Miscellaneous lithographed maps and prints.....	324

#### Old plans remounted

Original township surveys and patent plans.....	208
Mining locations .....	183
Total .....	956

### Bookbinding

#### New bindings

Field notes of current surveys.....	29
Miscellaneous .....	87
Total .....	116



Rebindings	
Patent References .....	27
Field notes .....	42
Total .....	69
Miscellaneous	
Documents and pages laminated .....	2,840
Other .....	22

## Crown Survey Records

The use of original Crown Survey Records for reproduction or reference purposes by the survey branches of the Hydro-Electric Power Commission of Ontario, the Ontario Department of Highways, Ontario Land Surveyors in private practice and the general public, continues to increase.

One thousand, five hundred and fourteen (1,514) cards were typed covering plans being recatalogued and filed in the Survey Record Catalogue. In addition, 527 entries were made in the Surveyor's designation number card index of surveyed parcels, including change of file numbers. The returns of surveys of 73 plans of subdivisions made for summer resort purposes and 167 plans of miscellaneous surveys consisting of the surveys of pipe line right-of-ways, composite plans, retracement resurveys made on Crown Lands, individual summer resort location surveys, as well as 29 books of field notes were registered, catalogued and filed. Field notes showing the location of, and type of monument used to restore 218 points of the original Crown survey fabric, were filed.

The refileing of all plans of surveys, with the exception of the plans of surveyed mining claims presently filed on current correspondence files, into the vertical filing system, was continued this fiscal year. Approximately 44,010 flat, current correspondence files were examined. Approximately 11,413 plans of surveys, descriptions, field notes and affidavits were removed and refiled into the vertical filing system. This required the typing of approximately 4,876 filing labels which was done partly by the summer casual help and partly by the full time staff. All survey record material removed from the files was microfilmed.

Certain records, considered to be of enduring value, were transferred to the Department of Public Records and Archives for permanent retention and preservation. These consisted of the original Indian Treaty No. 9, the James Bay Treaty 1905-6, along with the adhesions dated 1929; an original map of Lake Huron dated 1788 believed to have been prepared by Patrick McNiff, Deputy Surveyor, from the notes of Lieut. Bennet, 8th Regiment, Detroit and a manuscript volume containing "Accounts of the Board of Examiners of Provincial Land Surveyors for Upper Canada and Ontario 1856 to 1868."

## Survey Party Equipment

Four field survey parties under staff surveyors, carrying out summer resort location subdivision surveys, park, inspection, retracement and other miscellaneous surveys, were supplied and equipped for field work. Four 450-link chains were purchased for field use.

Survey monuments to cover the survey program were distributed to various district offices for the use of Ontario Land Surveyors on the staff, or in private practice who were making retracement surveys, individual or subdivision surveys for summer resort purposes on Crown Land under instructions from the Depart-



ment, for Municipal Surveys being made under departmental instructions, or for other miscellaneous surveys, as follows:

Iron Bars— 6 inch by 1 inch square .....	334
24 inch by 1 inch square .....	1,207
24 inch by $\frac{5}{8}$ inch square .....	50
48 inch by 1 inch square .....	3,644
Total .....	5,235
Crown Land Monuments—Rock .....	9
Standard 30" .....	22
Bronze Caps .....	2,303
Municipal Monuments— Bronze Caps .....	20

Wooden guide posts were made and stockpiled by the District Ranger staff in slack periods, in one District of southern Ontario for surveys to be made in that and other districts. In northern Ontario they were purchased locally.

## Cartographic Mapping and Geographical Nomenclature

### MAP PRODUCTION

Priority was given to the production of the base drawings for map folder number R.163 “Recreational Areas and Parks within a 50-mile radius of Metropolitan Toronto” on a scale of four miles to the inch. This work consisted of the cover design, five basic maps with appropriate indices, descriptive text, artistic illustrations and the designing of a special envelope for the enclosure of the map folder for mailing purposes; 350,000 copies, lithographed on front and reverse sides in five colours were obtained and the majority distributed in the Metropolitan Toronto area by August 1963.

A new base map 23 (replacing 24A) “District of Thunder Bay” of the territorial series, scale eight miles to one inch was compiled, drawn and reproduced in the amount of 10,000 copies. The new base was prepared similar to the other maps of this series having the improved colour tones and showing the Department of Lands and Forests administrative district boundaries, standardized grid system for locating geographic townships, nomenclature pertaining to, and the outlines of lakes and rivers in blue.

A small map covering the revised Electoral Districts of Metropolitan Toronto according to the amendments to the “Representation Act” was produced as a supplement to Map 33A “Electoral map of the Province of Ontario”, showing provincial ridings; 3,000 copies were lithographed in black and red.

Preparation of a base map transparency designated as map number 11B was completed of the Islands in Georgian Bay, in front of the Township of Shawanaga, on a scale of 20 chains to 1 inch for dry process reproduction purposes.

### DESIGN, COMPILATION AND FAIR DRAWINGS OF MAPS

Work progressed on the conversion of the existing base drawings of Map 21A “Southern Ontario” of the Territorial Series on a scale of eight miles to one inch to the present format, pattern and standards of the series, including the investigation of the status of existing place names, resulting the extensive revision of internal detail. The new map will be designated as Map Number 21.

The preparation of a new and enlarged base map of Map 47A “Algonquin Provincial Park” on a scale of two miles to one inch in multi-colour effects, to

supplant the existing map was commenced. Present planning includes extensive revision of internal detail, the showing of the "hill shading" effect and to produce a limited number of copies on a durable waterproof plastic impregnated paper.

Planning and designing a map folder showing the "Summary of Ontario Hunting Regulations 1964" was undertaken for the Wildlife Section of the Fish and Wildlife Branch. This map folder will be increased in size, contain map areas showing moose, deer and small game distribution and show hunting regulations in text and graphic form. A suitable frontpiece is being designed and it will be lithographed in three colours.

Preliminary investigation was carried out and a report prepared on the available basic material, methods and tentative costs involved relative to the proposed production of four maps to illustrate glacial geology of Northern Ontario for the Soils Section of Research Branch.

EDITING OF GEOGRAPHICAL NOMENCLATURE ON MAPS

Editing of geographical nomenclature to be approved for use on official maps has been carried on in conjunction with the Canadian Permanent Committee on Geographical Names.

The number of maps and charts in the following categories were examined:

National Topographic 1:50,000 series.....	2
National Topographic 1:250,000 series.....	4
National Topographic 1:25,000 series.....	8
(Military Town Plan)	
Canadian Hydrographic Service, Marine Charts.....	15

In addition, some 15 maps to be produced by the Ontario Department of Mines and other provincial mapping units were examined.

Several other groups of subjective nomenclature not related to any particular mapping project were investigated as to origin, status and proper form, prior to making submissions to the Committee for approval. Verification of existing or suggested names for mountain and hill features adjacent to Lake Superior, in the Thunder Bay District; salient parts of the Niagara Escarpment from the Niagara River to the Bruce Peninsula; and names of small water areas of Georgian Bay, Lake Huron and Lake Superior, prior to their acceptance as information to be included in proposed legislation concerning small boat anchorages in Ontario was obtained. Nomenclature in the "Canada Air Pilot East" and the "Water Aerodromes Supplement" compiled by the Surveys and Mapping Branch of the Department of Mines and Technical Surveys for the Department of Transport, Ottawa was edited for correctness of geographical names, within Ontario, as related to airports and seaplane bases.

Two thousand five hundred (2,500) new entries, including the references to areas indicated in the Preliminary Report on Marine Resources produced by this department in the previous fiscal year, along with seven thousand five hundred (7,500) revisions to existing entries were made to the "Index of Geographical Names in Ontario". Increased activity in matters concerning toponymy is relative to the importance of and greater demand for this type of information.

MISCELLANEOUS SURVEYS

Surveys of internal improvements within the boundary of Sibbalds Point Provincial Park, Georgina Township, County of Simcoe were carried out. A

traverse and contour survey in Tiny Marsh, Township of Tiny, County of Simcoe was made, prior to flooding for planting of wild rice in connection with the creation of a bird sanctuary. These surveys were in addition to those made under direct instructions issued to staff surveyors.

## ENGINEERING SECTION

### Water Resources Management

#### APPROVAL OF DAMS

The approval of 44 dams for construction in the fiscal year April 1, 1963 to March 31, 1964, required the examination of 102 plans.

The approval of one diversion, and two dam improvement projects involved the examination of five further plans.

#### LICENCES OF OCCUPATION

Twenty-four licences of occupation were cancelled during the year, the licencees having no further use for the dams.

One licence of occupation for a damsite and flooding rights was issued.

#### WATER POWER LEASE AGREEMENTS

Water Power Lease Agreement No. 48 issued to Dryden Paper Company Limited for Eagle River and McKenzie Falls power development on the Eagle River in the Township of Aubrey, District of Kenora.

Water Power Lease Agreement No. 67 issued to The Hydro-Electric Power Commission of Ontario, being a Supplementary Agreement deleting Water Lot HY 37 from Water Power Lease No. 102, said water lot having been purchased by the Commission.

Water Power Lease Agreement No. 68 issued to Dryden Paper Company Limited, replacing Water Power Lease Agreement No. 13 for the Wainwright Falls power development.

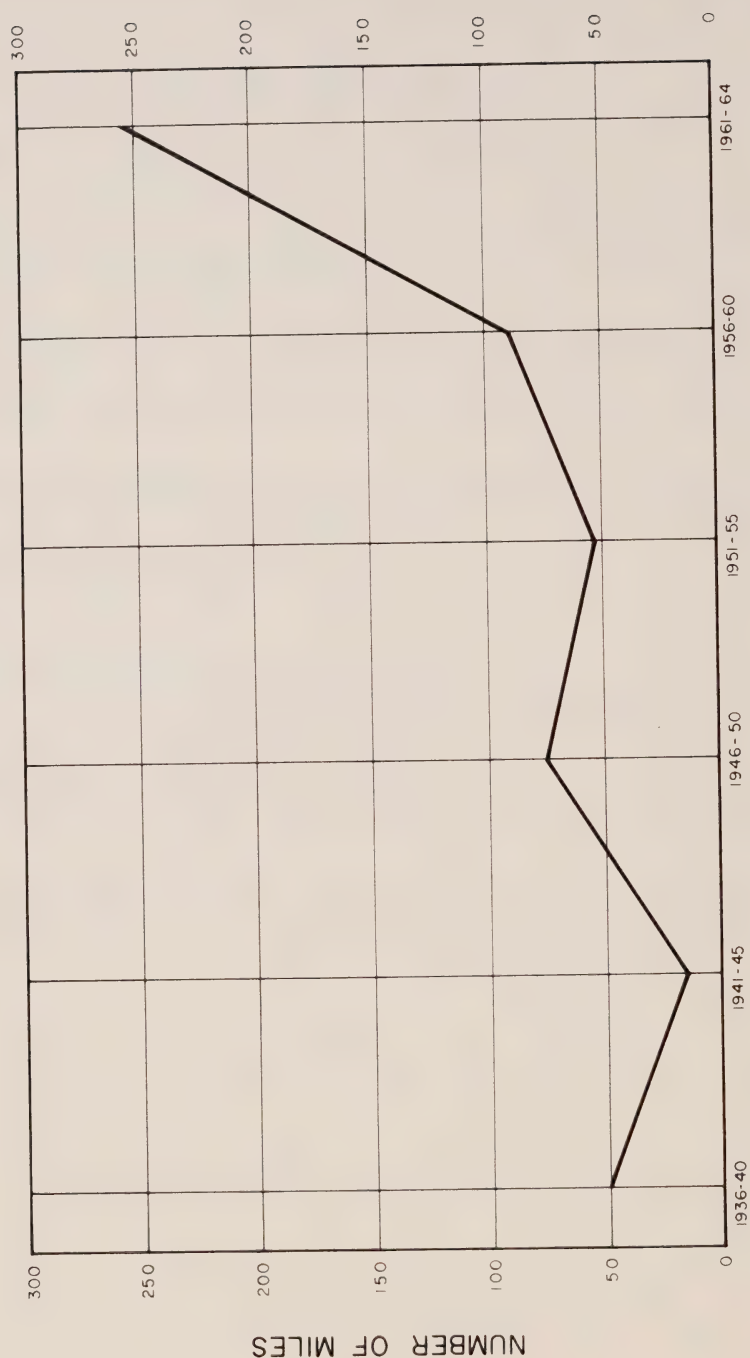
#### DAM RECONSTRUCTION

The reconstruction of eight dams was recommended to the Department of Public Works, continuing the program of re-building abandoned logging dams in the interests of forest protection, conservation and fish and wildlife propagation. Assistance was given the Public Works engineers in determining a satisfactory regulated water level and obtaining stream flow and historical data useful in designing the new dams, one of which had been carried over from the 1962-63 program.

The customary annual request for the re-construction of 10 dams had to be curtailed, as the Department of Public Works had to include the re-construction of their dam at Joe Lake in Algonquin Park in the program.

Seven projects were completed during the year, the eighth project to be carried over into the 1964-65 season. The operation of the completed dams becomes the responsibility of this Department.

# TREND OF RETRACEMENT SURVEYS





In addition, five repair projects were completed by the Department of Public Works and turned over to this Department for operation.

Thirteen field trips were made to inspect the condition of dams, investigate complaints in regard to water levels and to attend meetings to discuss the operation of dams.

### Hatcheries Design and Construction

Complete reconstruction of the Normandale hatchery and trout rearing station was continued with a project to construct a new, modern rearing station and an earth pond to hold Kamloops trout breeding stock.

A project was established for the conversion of the old Mount Pleasant hatchery and rearing station into a public fishing area. A considerable amount of excavating and grading was done to create three large earth ponds.

Preliminary planning was commenced for the proposed renovation of the North Bay (Balsam Creek) hatchery and trout rearing station.

### Buildings or Service Improvements

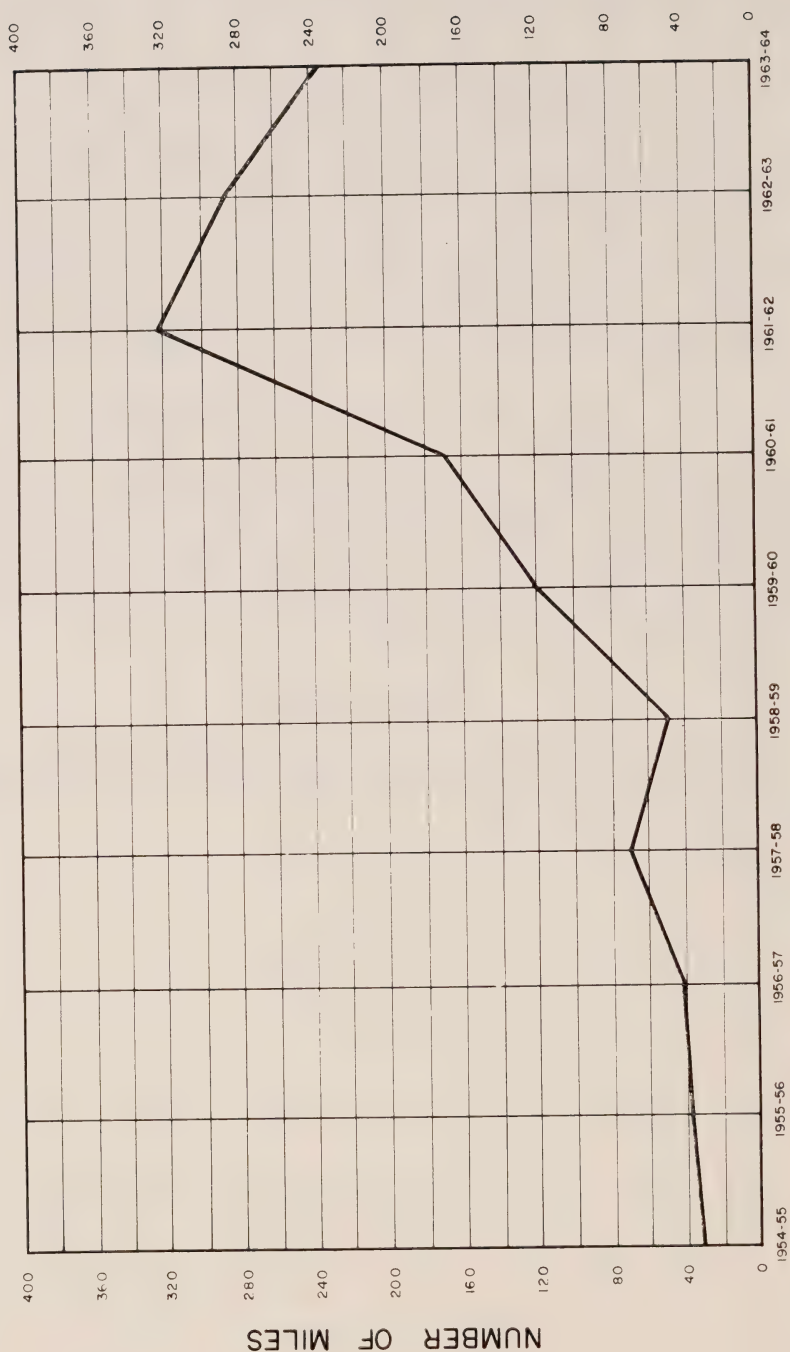
Forty-two 'A' Capital projects were carried out or undertaken including new sewage disposal systems at Gogama and the Ontario Ranger School; new Chief Ranger headquarters buildings at McFarlane Lake and Timagami; a complete water supply system at Red Rock Lake Park; a new 90-bed dormitory at the Ontario Ranger School; a telephone pole line, new office and shipping barn were completed at the Swastika Tree Nursery as well as extensive electrical renovations to 22 buildings at the Angus Tree Nursery.

### Access Roads

Approval for the expenditure of \$364,000 was granted for the maintenance of access roads throughout the Province; 140 work permits for the construction of access roads were processed.

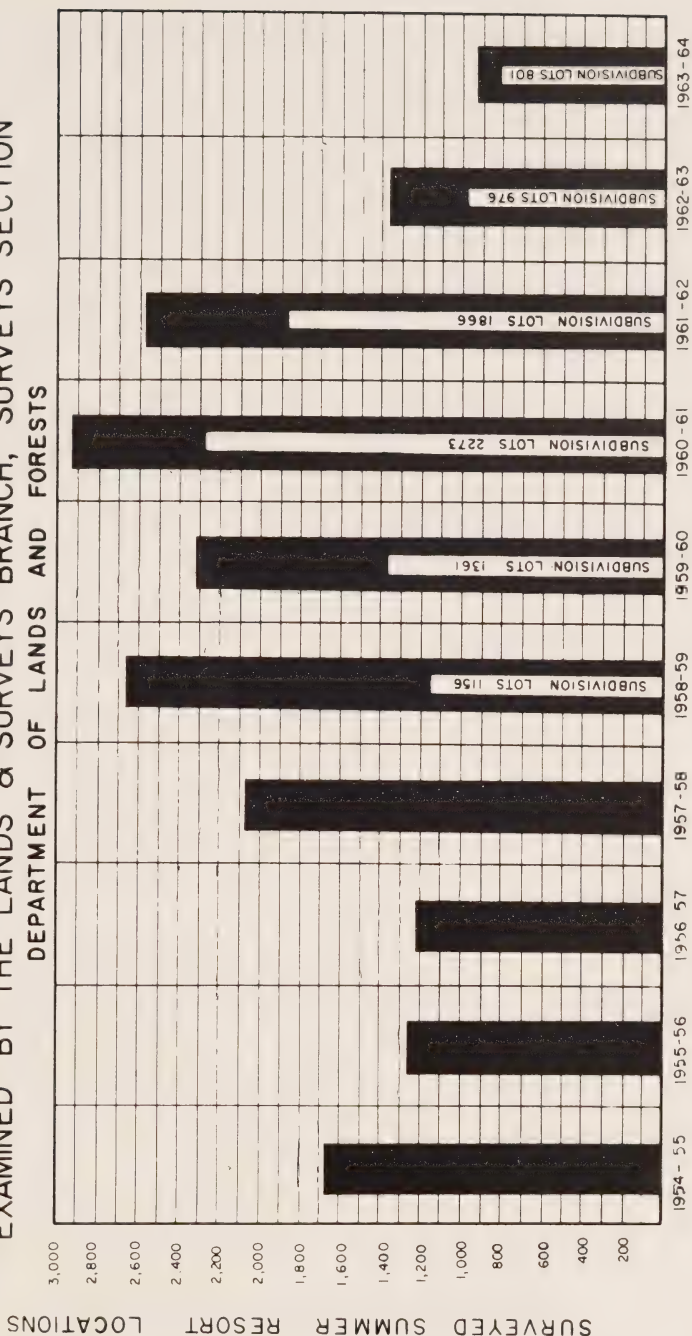
# TREND OF RETRACEMENT SURVEYS

PREPARED FROM MILEAGE FOR THE PAST TEN YEARS  
1954-55 to 1963-64



# SURVEYED SUMMER RESORT LOCATIONS ON CROWN LAND

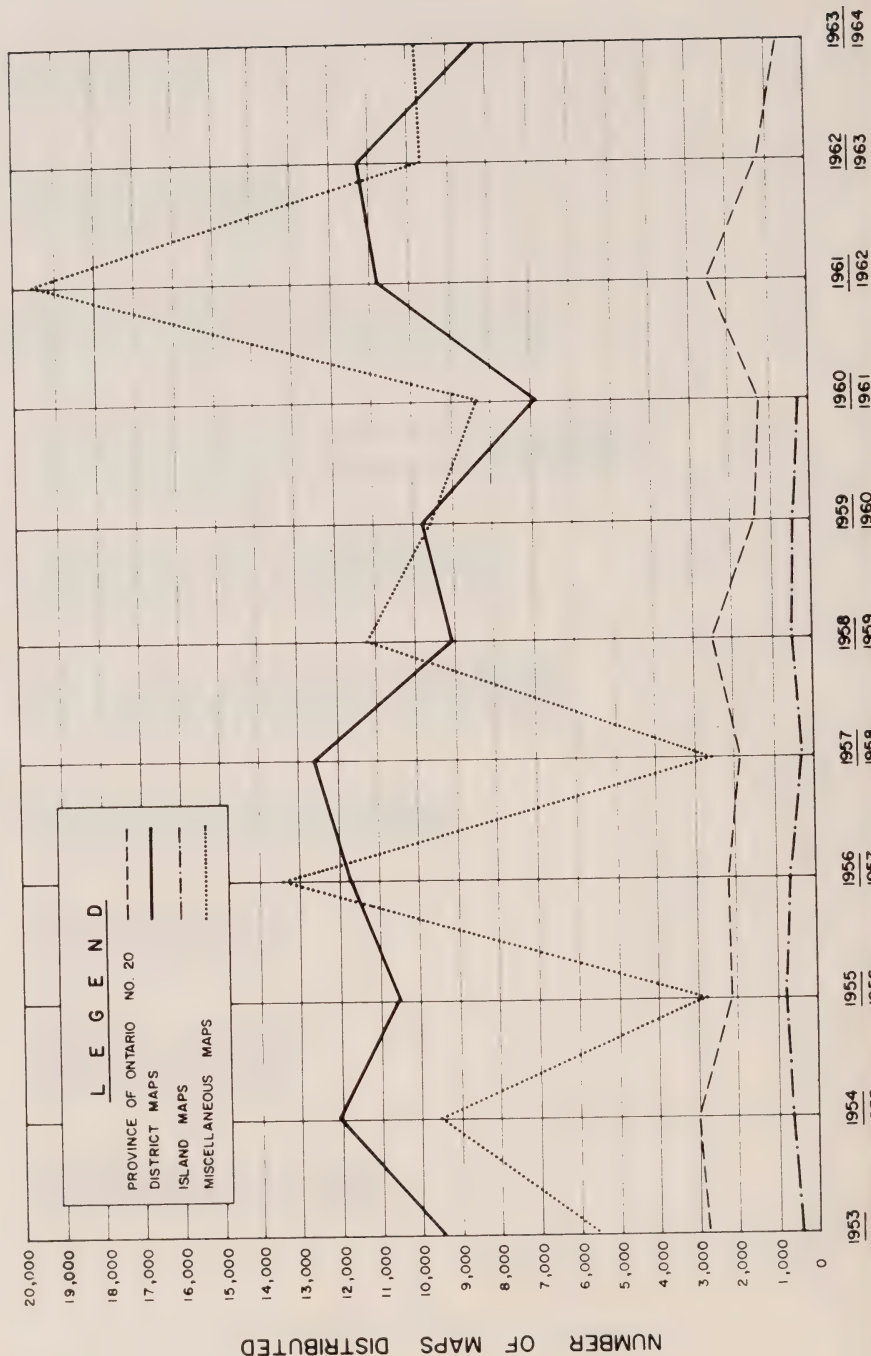
EXAMINED BY THE LANDS & SURVEYS BRANCH, SURVEYS SECTION  
DEPARTMENT OF LANDS AND FORESTS



FISCAL YEAR ENDING MARCH 31st.

# TREND OF MAP DISTRIBUTION

PROVINCIAL ISSUES  
DEPARTMENT OF LANDS AND FORESTS

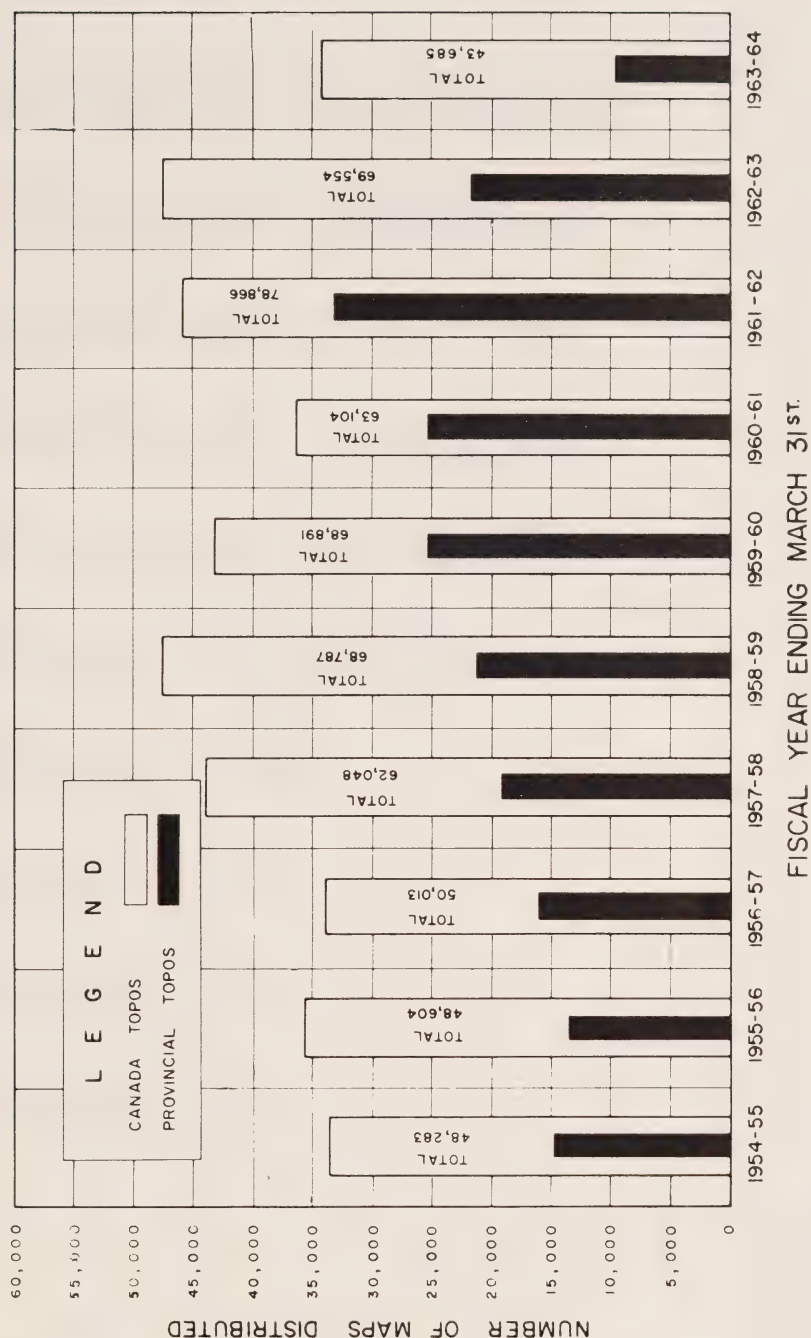




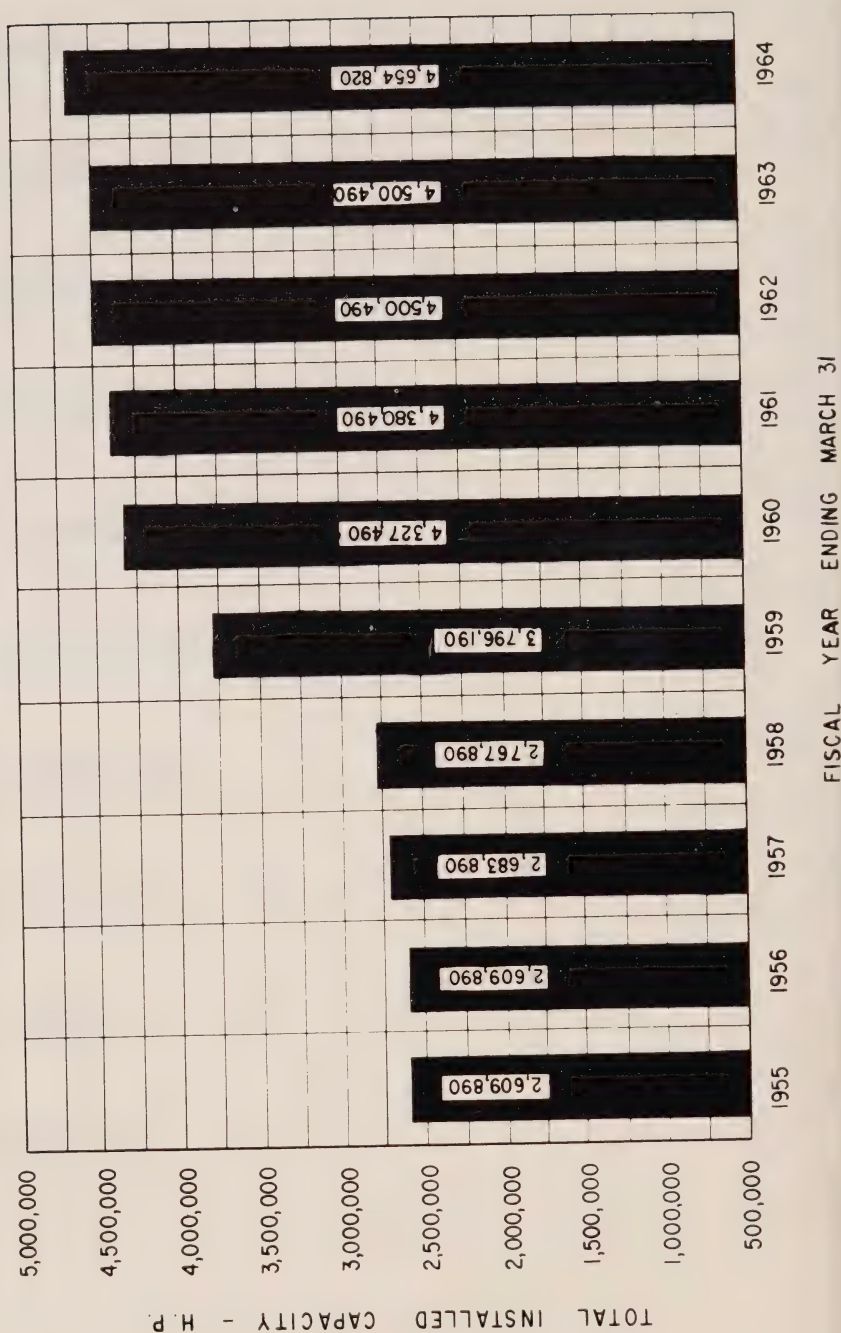
# TREND OF MAP DISTRIBUTION

## NATIONAL TOPOGRAPHIC SERIES

### DEPARTMENT OF LANDS AND FORESTS



# INSTALLED CAPACITY IN HORSE-POWER OF ALL PLANTS UNDER CROWN LEASE FOR FISCAL YEARS 1955-1964



# AGRICULTURAL LAND The fiscal year ending March 31st, 1964

Administrative District	Sales		Cancellations		Assignments		Patents	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Cochrane			1	81.50			17	1266.529
Fort Frances							2	202.00
Kapuskasing			1	74.50			29	2709.243
Kenora			1	163.50			6	852.00
Lake Simcoe							1	50.00
Lindsay							1	100.00
Parry Sound			1	20.00				
Pembroke	1	92.09					1	92.09
Port Arthur							12	1579.49
Sault Ste Marie			2	232.37				
Sudbury	1	159.00					3	308.25
Swastika	3	248.25	3	238.25	1	80.00	10	959.88
Tweed	1	50.00					4	539.00
TOTALS	6	549.34	9	810.12	1	80.00	86	8658.482
Swastika Varsity Patents							2	124.39
TOTALS	6	549.34	9	810.12	1	80.00	88	8782.872

## SUMMER RESORT The fiscal year ending March 31st, 1964

Administrative District	Sales		Cancellations		Assignments		Patents	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Chapleau	3	2.82						
Cochrane	21	13.599					17	12.363
Fort Frances	51	53.14	1	.99			31	36.41
Geraldton	23	26.21					7	7.71
Gogama	3	7.50					4	6.78
Kapuskasing	4	3.610					19	16.749
Kenora	78	89.82					105	119.162
Lake Erie	10	3.20					13	3.68
Lake Simcoe	31	32.03					46	35.544
Lindsay	64	48.967	2	2.01			102	81.76
North Bay	48	46.92	2	1.36			45	47.89
Parry Sound	313	312.814	3	3.51	3	2.77	339	341.320
Pembroke	27	31.049					40	42.340
Port Arthur	24	24.672	2	3.04	1	1.75	34	33.416
Sault Ste Marie	24	54.78	4	4.59			41	46.09
Sioux Lookout	6	8.34					11	17.97
Sudbury	61	51.888					119	118.285
Swastika	7	5.009	1	1.12			7	5.34
Tweed	109	107.989	4	4.59			98	109.766
White River	5	4.66					10	9.36
TOTALS	912	929.017	17	19.20	6	6.53	1088	1091.935

# LAND FOR SPECIAL USE

The fiscal year ending March 31st, 1964

Administrative District	Sales		Cancellations		Patents		Quit Claim		Deeds Acres
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	
Chapleau	1	2.00			1	3.04			
Cochrane	5	497.483	1	1.50	7	829.190			
Fort Frances					1	.52			
Geraldton	5	74.380			6	764.782			
Kapuskasing	6	121.15			8	210.13			
Kemptville					4	200.56	3	186.00	
Kenora	15	23.118			17	46.738			
Lake Erie	1	13.318			4	138.068	1	1800.00	
Lake Huron	2	426.266			3	421.93	2	307.98	
Lake Simcoe	1	2.857			7	4.361			
Lindsay	4	37.230			6	25.170	1	14.40	
North Bay	1	.56	2	.95	9	2829.90			
Parry Sound	2	3.855			13	210.496	1	100.00	
Pembroke	3	2.92			4	1.378	1	17.00	
Port Arthur	2	76.051			5	79.191			
Sault Ste Marie	2	83.758			5	87.8745			
Sioux Lookout	7	79.170			8	80.300			
Sudbury	8	10.046	1	80.58	13	247.160	1	66.6667	
Swastika					3	302.863			
Tweed	8	52.92			14	119.005	14	1660.10	
White River	2	21.97			2	21.97			
TOTALS	75	1529.052	4	83.03	140	6624.6265	24	4152.1467	

## CITIES, TOWNS AND TOWNPLOTS

The fiscal year ending March 31st, 1964

Administrative District	Sales		Cancellations		Assignments		Patents		Quit Claim		Deeds Acres
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	
Chapleau	3	1.50									
Cochrane	3	5.106					4	4.939			
Geraldton	5	7.85	1	.10			8	2.977			
Gogama	6	1.16					4	.64			
Kapuskasing	10	2.36					8	1.888			
Kenora	3	.954					2	.684			
Lake Erie									2	1.865	
Lake Huron	2	6.50					3	8.50	1	.44	
Lake Simcoe							2	5.00			
Lindsay							1	.50			
North Bay	1	.19									
Parry Sound	1	.25	1	4.612			1	.80			
Pembroke	3	1.053					5	6.096			
Port Arthur					1	.2					
Sault Ste. Marie							1	2.09			
Sioux Lookout	11	4.10					4	1.06			
Sudbury	5	1.01					6	1.51			
Swastika	4	.477	2	.18			7	179.942			
White River	7	2.14					11	2.20			
TOTAL	64	34.650	4	4.892	1	.2	67	218.826	3	2.305	



FREE GRANT LAND  
RETURNED SOLDIERS AND SAILORS  
The fiscal year ending March 31st, 1964

Administrative District	Cancellations		Patents	
	No.	Acres	No.	Acres
Kenora .....	1	178.836		
Port Arthur .....			1	113.45
<b>TOTALS</b> .....	<b>1</b>	<b>178.836</b>	<b>1</b>	<b>113.45</b>

FREE GRANT LAND  
The fiscal year ending March 31st, 1964

Administrative District	Cancellations		Assignments		Patents	
	No.	Acres	No.	Acres	No.	Acres
Kenora .....					3	361.87
Lindsay .....			1	100.00	1	100.00
North Bay .....					1	200.00
Parry Sound .....	11	1043.00			10	1303.68
Sioux Lookout .....					1	154.00
Swastika .....					1	151.78
<b>TOTALS</b> .....	<b>11</b>	<b>1043.00</b>	<b>1</b>	<b>100.00</b>	<b>17</b>	<b>2271.33</b>

LEASES  
The fiscal year ending March 31st, 1964

Administrative District	Leases		Cancellations	
	No.	Acres	No.	Acres
Chapleau .....	1	4.591		
Fort Frances .....	1	.73		
Geraldton .....	7	358.061	1	5.805
Gogama .....	1	.67		
Kapuskasing .....	1	115.915	2	24.93
Kemptville .....	1	.612		
Kenora .....	3	202.756	1	—
Lake Erie .....	7	42.514	5	1.414
Lake Huron .....	1	4.221		
Lake Simcoe .....	1	.41	1	.41
North Bay .....	3	54.78	1	2.00
Parry Sound .....	3	42.41		
Pembroke .....	11	12.39	14	22.144
Port Arthur .....			1	233.00
Sault Ste. Marie .....	6	262.88		
Sioux Lookout .....	2	2.90	2	4.80
Sudbury .....	2	3.52	3	6.989
White River .....	3	8.28	3	15.91
<b>TOTALS</b> .....	<b>54</b>	<b>1117.640</b>	<b>34</b>	<b>317.402</b>

# LICENSES OF OCCUPATION

The fiscal year ending March 31st, 1964

Administrative District	Licences		Cancellations	
	No.	Acres	No.	Acres
Chapleau .....	4	148.00	3	100.00
Cochrane .....	8	64.709	7	12955.21
Fort Frances .....	1	8.360	1	—
Geraldton .....	5	258.946	16	101.439
Gogama .....	1	9360.72	4	9402.78
Kapuskasing .....	4	69.5298	4	273.322
Kemptville .....	3	5.361	3	4.187
Kenora .....			8	89.617
Lake Erie .....	7	7.443	4	3.846
Lake Simcoe .....	9	1.012	5	1.237
Lindsay .....	2	1.17	2	2.00
North Bay .....	7	6.769	6	242.76
Parry Sound .....	5	116.12	6	8.63
Pembroke .....	1	1.28	3	5.545
Port Arthur .....	4	1994.443	7	191.449
Sault Ste. Marie .....	3	11.96	2	160.58
Sioux Lookout .....	2	255.642	5	388.592
Sudbury .....	3	6.83	4	22.00
Tweed .....	1	2.00	1	2.00
White River .....			5	1021.14
<b>TOTALS</b> .....	<b>70</b>	<b>12320.2948</b>	<b>96</b>	<b>24976.334</b>

## PATENTS OFFICE

Statement of Patents, etc. issued during the year ending March 31st, 1964.

Public Land Patents .....	1176	
Free Grant Patents .....	17	
Free Grant Patents Soldiers & Sailors .....	1	
Patents (Town Lots) .....	70	
Miscellaneous Documents .....	164	
Release of Pine .....	4	1432
<hr/>		
Crown Leases .....	34	
Algonquin Park Leases .....	11	
Rondeau Park Leases .....	4	
Timagami Lease .....	1	
Water Power Lease Agreements .....	4	54
<hr/>		
Licences of Occupation .....	70	70
<hr/>		
Licences of Occupation Cancelled .....	96	
Crown Leases Cancelled .....	34	130
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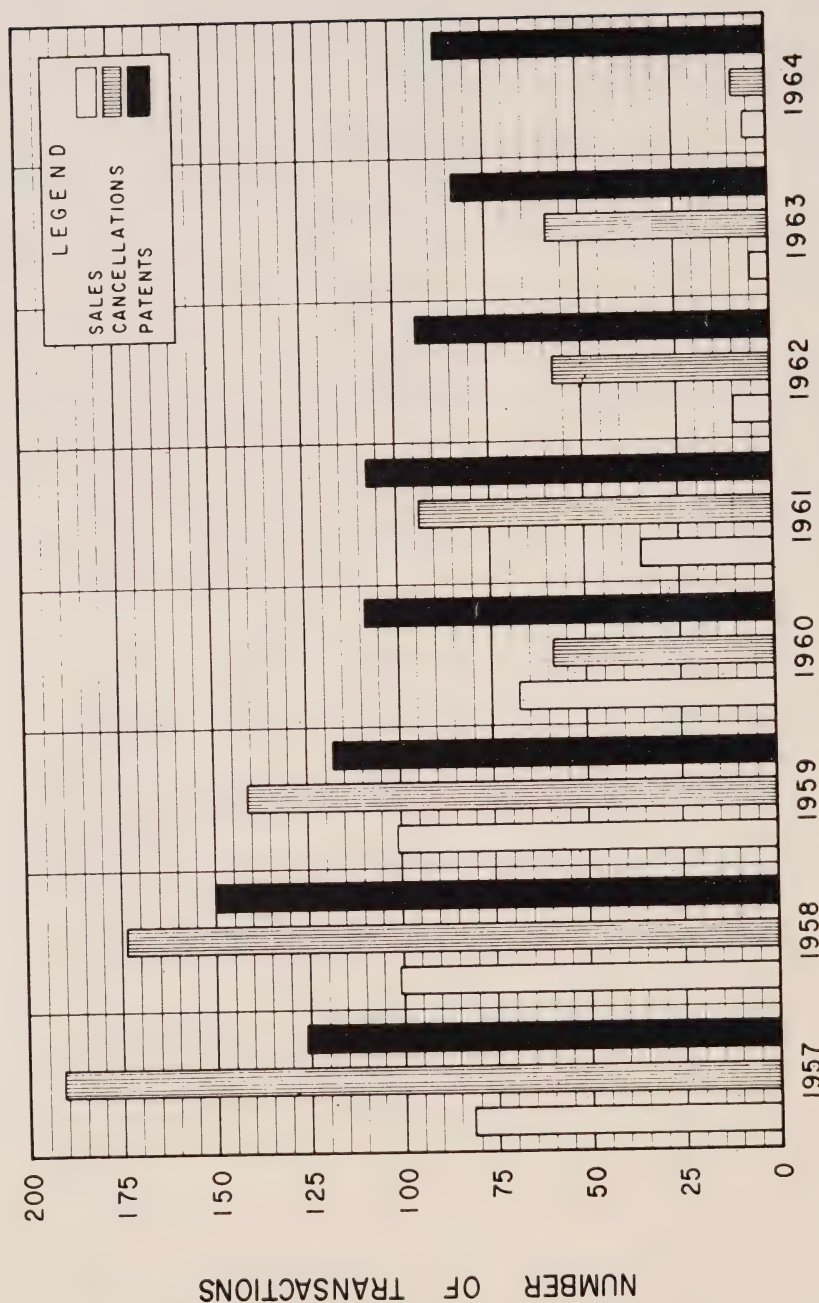
# LAND USE PERMITS ISSUED (From April 1st, 1963 to March 31st, 1964)

Administrative District	Hunt No.	Camp Acres	Trapper's Acres	Camp No.	Residence Acres	Agricultural Acres	Marsh No.	Marsh Hay Acres	Mill Site Acres	Sugar No.	Bush Acres	Boat No.	Houses	Miscellaneous Acres	Departmental Houses		
Chapleau	30	30.00	39	38.50	21	20.50	1	5.00	12	101.60		2	.50	21	2054.50	136	
Cochrane	66	53.65		27	23.00	6	207.00	4	55.00	8	55.00	3	.75	26	1284.50	60	
Fort Frances	11	8.00	33	9.50	2	1.25	2	40.00	6	59.00		23	5.75	26	953.25	119	
Geraldton	36	36.00	6	5.50	105	105.71	4	8.00				5	1.25	82	7416.80	130	
Gogama	50	50.00	5	5.00	14	11.39	1	10.00	6	83.00		4	1.00	11	1050.25	161	
Kapuskasing	28	27.25	22	19.48	221	202.81	7	127.50	9	245.17		3	.75	35	1605.91	172	
Kemptville																77	
Kenora	36	33.60	6	6.70	11	9.00			7	23.00		13	4.00	30	885.58	118	
Lake Erie			89	22.50			2	60.50				5	2.25			166	
Lake Huron																	
Lake Simcoe	6	6.00			20	10.00	9	342.00				11	4.25	8	6.25	204	
Lindsay	280	269.94			10	6.00	2	65.00	1	5.00		10	2.50	5	3.25	197	
North Bay	192	196.00	5	3.50	13	14.50	3	8.00	12	64.00	1	2.50	37	9.25	30	769.50	151
Parry Sound	533	527.50	5	4.25	36	32.75	2	2.00	8	58.50	3	39.00	34	10.96	33	211.60	41
Pembroke	278	276.50			8	4.25			16	296.73		10	3.25	67	215.92	250	
Port Arthur	7	8.00	5	5.00	2	11.00			5	23.00				15	1424.59	174	
Sault Ste. Marie	56	55.30	27	27.00	4	3.30	1	3.00	7	75.00	1	2.00	5	2.86	17	342.69	143
Sioux Lookout	35	35.70	21	18.50	30	28.08	4	9.00	19	600.20		6	1.50	67	12517.92	266	
Sudbury	246	246.00	10	10.00	35	44.33	14	288.50	1	50.00	2	30.00	80	21.00	24	952.50	193
Swastika	23	23.00	4	4.00	7	9.15	9	108.00	6	91.00	21	138.00	8	2.00	8	403.00	42
Tweed	478	464.50	1	1.00	6	8.00			4	37.78		8	2.00	16	52.00	88	
White River	33	25.31			19	10.42	1	4.00	3	15.00		8	6.02	39	1093.23	199	
TOTALS	2424	2372.25	278	180.43	591	555.44	68	1287.50	156	2086.08	7	73.50	275	561	33243.34	3173	

TOTAL NUMBER OF PERMITS — 4,379 (not including Departmental Houses)

TOTAL ACREAGE — 40,232.38

# AGRICULTURAL LANDS IN SALE TOWNSHIPS

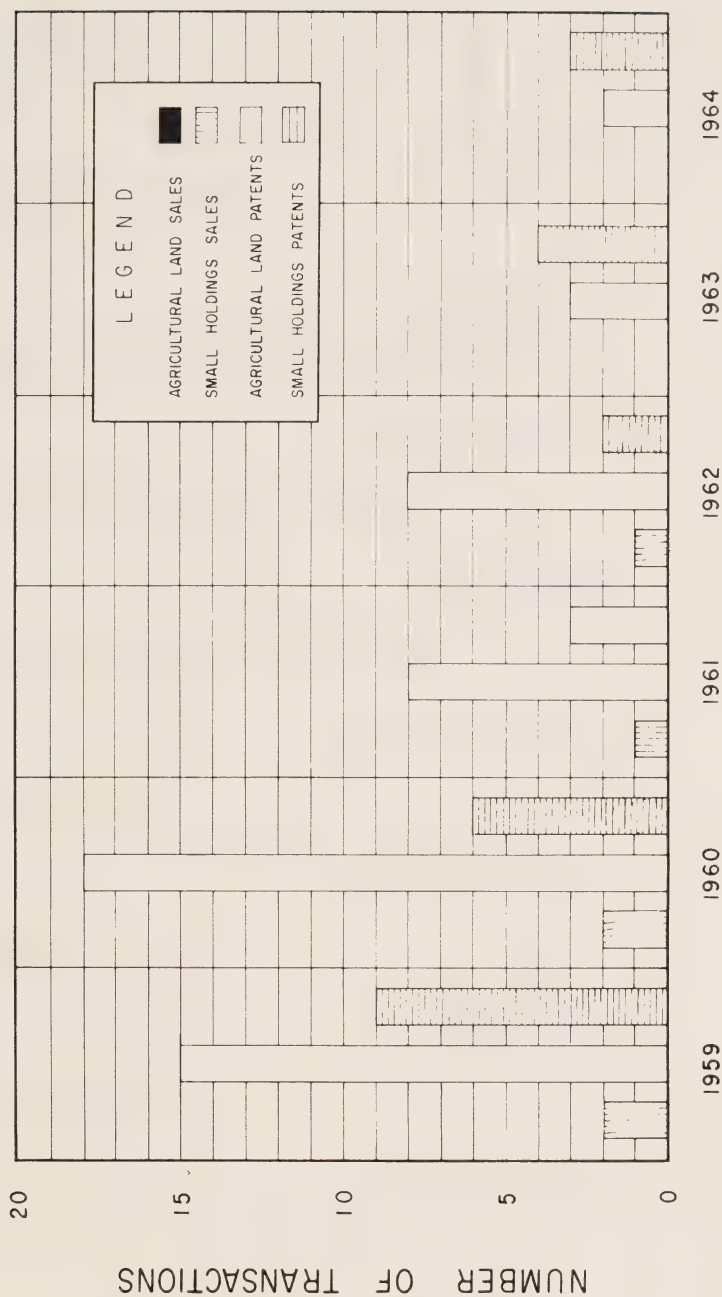


FISCAL YEAR ENDING MARCH 31st.



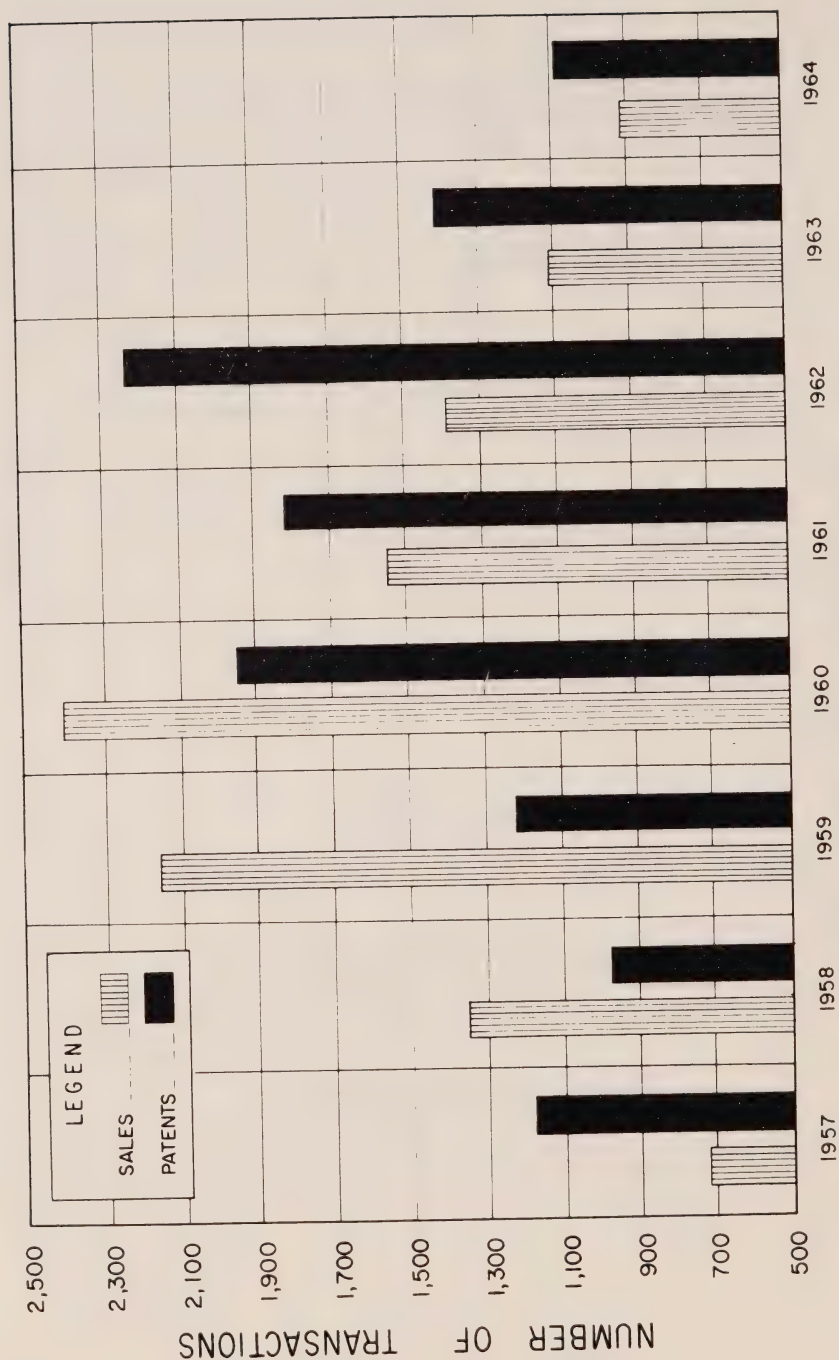
# THE ONTARIO DOMINION - PROVINCIAL AGREEMENT

## SECTION 38 OF THE VETERANS LAND ACT

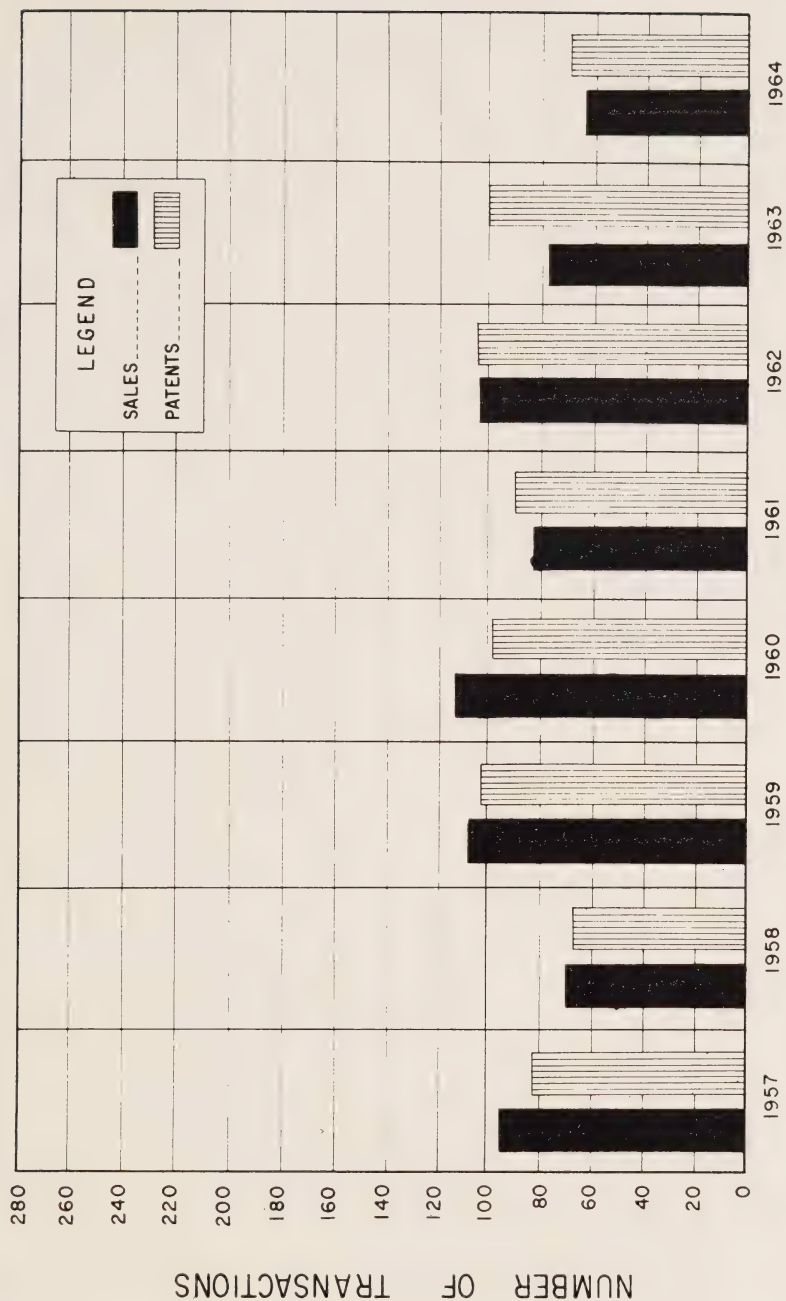


FISCAL YEAR ENDING MARCH 31st.

# SUMMER RESORT LANDS

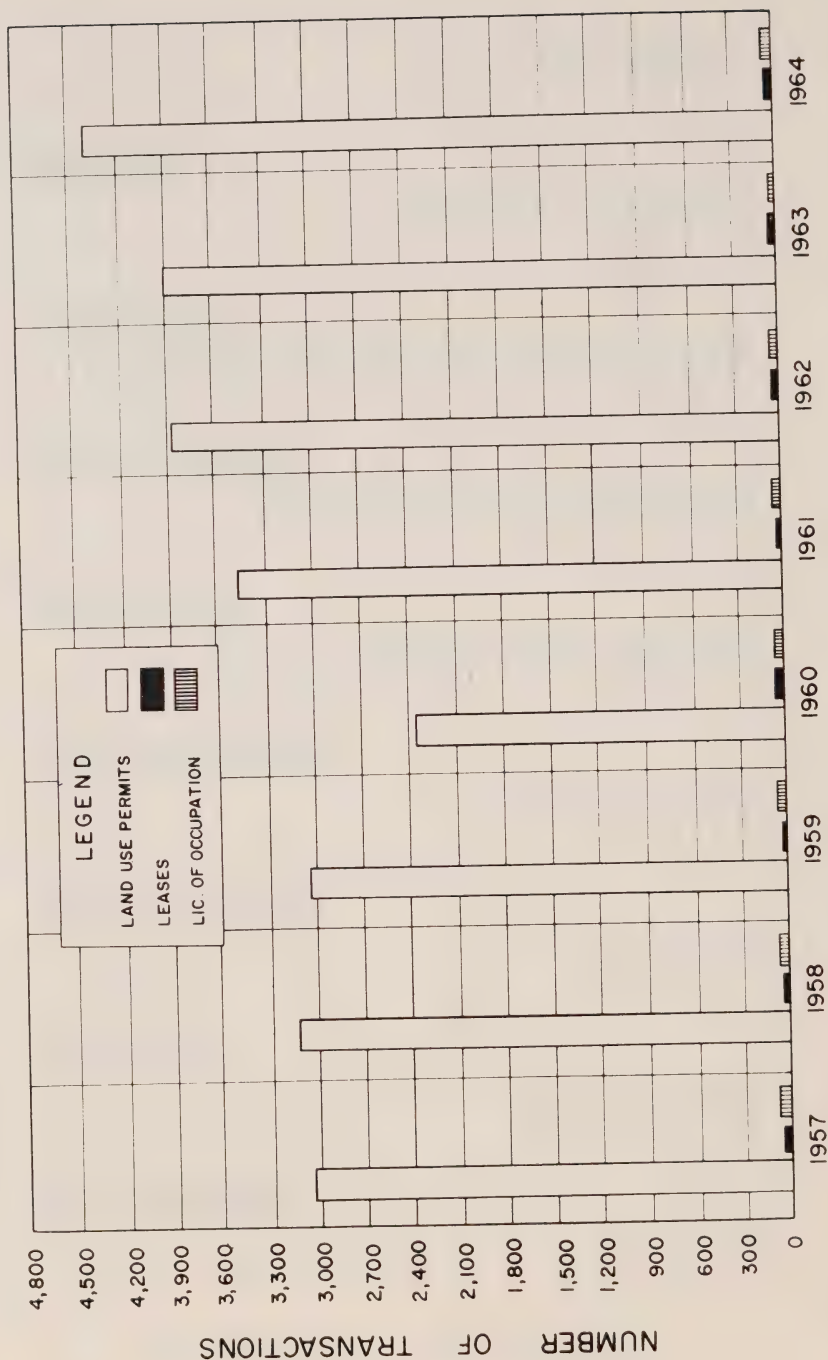


# CITY, TOWN AND TOWNSITE LANDS



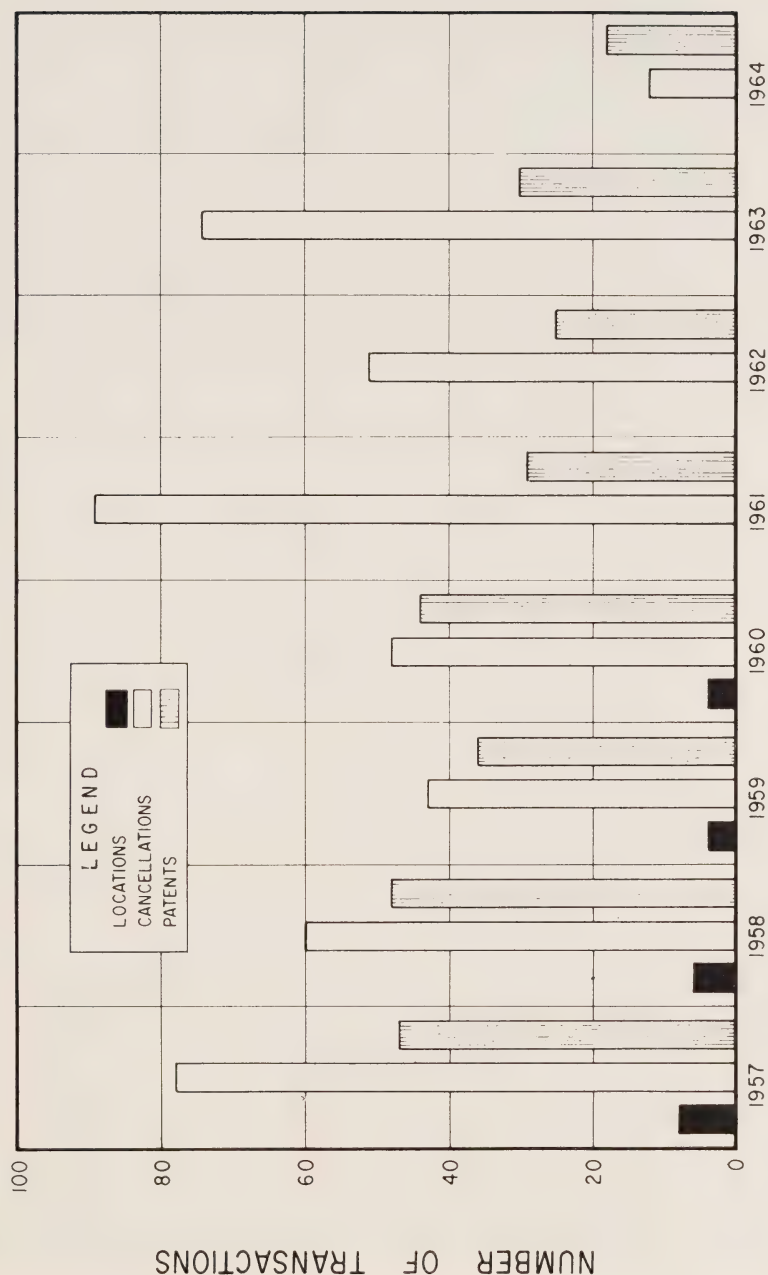
FISCAL YEAR ENDING MARCH 31st.

# LAND USE PERMITS, LEASES AND LICENCES OF OCCUPATION ISSUED



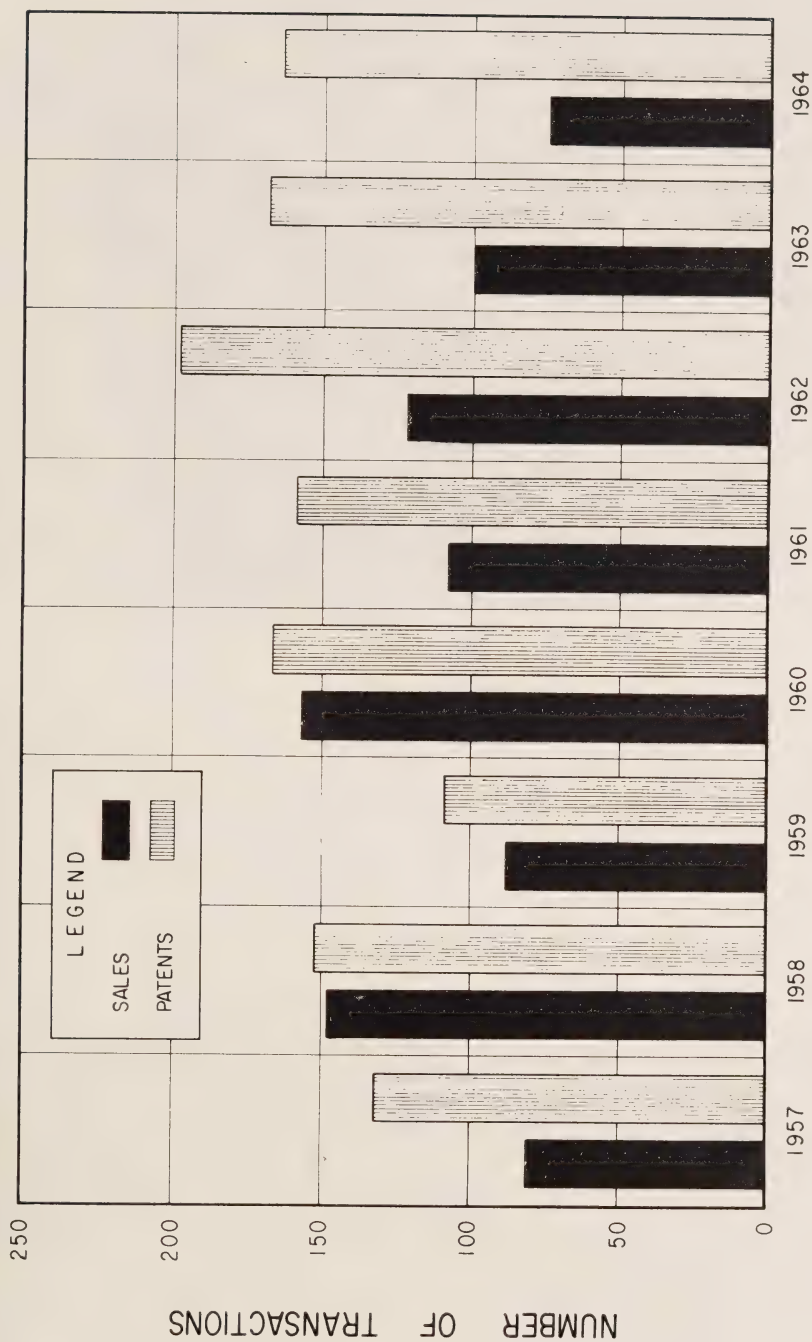


# AGRICULTURAL LANDS IN FREE GRANT TOWNSHIPS INCLUDING SOLDIERS' LAND



FISCAL YEAR ENDING MARCH 31st.





FISCAL YEAR ENDING MARCH 31st.





Conservation officers check the bag of successful duck hunters.



Ontario Hunting Regulations must be strictly adhered to by all sportsmen.



# LAW BRANCH

## Responsibilities of Law Branch

1. Advising the branches and field offices upon the legal position of the Department in all matters affecting it.
2. Consulting and working with federal officials on matters concerning fisheries, federal canal systems, harbours and lands, Indian reservations and rights of Indians, particularly regarding hunting and fishing.
3. Establishing and reviewing Department policy in various fields, whether such policies are to take the form of legislation, regulations or administrative policy. Integrating such policies into those of the Government.
4. Interpretation of Statutes and regulations.
5. Maintenance of records of Crown land including,
  - (a) advising the public and others on such records
  - (b) compilation of statistics and incidental correspondence
  - (c) cancellation of Crown land sales
  - (d) domesday books
  - (e) forfeitures
  - (f) leases
  - (g) licences
  - (h) preparation and engrossing of documents disposing of Crown land including,
    - (i) leases
    - (ii) letters patent
    - (iii) licences of occupation
6. Preparation and processing of:
  - (a) agreements
  - (b) briefs, opinions and memoranda on special subjects
  - (c) leases
  - (d) legislation
  - (e) licences
  - (f) office consolidations of statutes and regulations
  - (g) pleadings
  - (h) recommendations to Council
  - (i) regulations under the various statutes administered by the Department.
7. Services—miscellaneous
  - (a) collection of bad accounts (i.e. accidents involving Department vehicles, unpaid accounts, land tax arrears, etc.)

## LAW BRANCH

Supervisor: G. H. FERGUSON

SOLICITORS:  
S. J. ANTONETTE  
W. E. D. PETERS

PATENTS OFFICE  
Supervisor: B. P. FOSTER

SECRETARY  
Stenographic Staff

- (b) conducting litigation
- (c) conveyancing
- (d) representing the Department as Counsel in Provincial Land Tax Appeals
- (e) settlement of claims and disputes including grievances of department employees
- (f) title searching

## LEGISLATION

At the Session of the Legislature, which convened on the 29th day of October, 1963 and prorogued on the 8th day of May, 1964, amendments were made to The Crown Timber Act, The Game and Fish Act, 1961-62, The Killarney Recreational Reserve Act, 1962-63 and The Trees Act. With the exception of the amendment to section 36 of The Crown Timber Act, which amendment is effective April 1st, 1965, the amendments to the Acts came into force on March 25th, 1964.

### NOTES ON LEGISLATION

#### The Crown Timber Amendment Act, 1964

Section 1 of The Crown Timber Act was amended to provide definitions of productive lands and professional forester.

Subsection 4 of section 2 of the Act was amended to clarify the intent of the section.

Subsection 1a was added to section 3 of the Act to provide for a one-year renewal of a licence granted with the approval of the Lieutenant Governor in Council. A complementary amendment was made to subsection 2 of section 3.

Subsection 1 of section 6 of the Act was re-written to provide that a licence shall state the total area, the productive area and unproductive area.

Section 24 of the Act was re-written to provide for management plans which must be prepared under the supervision of and certified by a professional forester. The Minister will determine whether a licensee shall file a management plan or an operating plan. Management plans or operating plans may be approved as submitted or changed with such alterations as the Minister deems advisable. Operations on licensed areas shall be conducted in accordance with the approved plan. Where a plan is not submitted within the fixed time the plan may be prepared by the Minister at the expense of the licensee.

Subsection 2 of section 25 and subsections 1 and 2 of section 26 were amended to bring them in line with the new requirements for plans.

Section 31 of the Act was re-enacted to authorize a manual of management plan requirements prescribing the method of preparing management plans, operating plans, inventories and forms.

Subsections 2 and 3 of section 36 were amended to provide for three-year terms for scalers licences.

Subsection 1 of section 45 was enlarged to require a mill licence to reconstruct a mill. Subsection 2 was re-enacted to provide that a licence shall not be granted unless the applicant has, in the opinion of the Minister, a sufficient supply of logs or wood bolts.

Section 46, dealing with provincial forests, was repealed.

The minimum penalties under clause j of section 47 were reduced to \$25 on a first offence and \$50 on a subsequent offence.

## THE GAME AND FISH AMENDMENT ACT, 1964

Section 1 of The Game and Fish Act, 1961-62 was amended by adding a definition of fire-arm and by adding the word "hunted" to paragraph 14.

Sections 18, 20, 22, 23, subsection 2 of section 80 and paragraph 22 of section 83 were amended to bring the sections in line with the definition of fire-arm.

Section 22 was also amended by deleting the words "for the purpose of hunting" in the interest of proper law enforcement.

Section 23 was also amended to permit regulations prescribing the calibre or type of fire-arm used in night hunting of racoon.

Section 27a prohibits the use of a set-gun in hunting game.

Subsection 4 of section 34 was re-enacted to limit the refund of licence fees to cases where the licence has not been used by reason of sickness, accident or death and the Minister deems it just.

Subsections 2 and 3 of section 36 were repealed and new provisions made to authorize the appointment of licence issuers, who are deemed to be trustees for the Crown of the licence fees and to prescribe a manual of licence-issuing instructions, for a breach of which an issuer is guilty of an offence. Also the provision respecting blank licences was strengthened to prohibit the possession of a licence a material part of which is not completed.

Subsection 4 was added to section 37 to authorize the repeal of township licensing by-laws and refunding of licence fees.

Section 37b was added to the Act and provides that no person shall knowingly possess any game hunted in contravention of the Act or the regulations.

Subsection 1 of section 43 was strengthened by adding "offer for sale, purchase or barter, or be concerned in the sale, purchase or barter of" after "sell" in the second line.

Section 47 was amended to permit the hunting at any time of birds released under section 29 except pheasants and Hungarian partridge.

Subsection 1 of section 64 was amended to prohibit the sale of brown, Kamloops and Aurora trout for stocking and brown trout for human consumption.

Subsection 1 of section 71 was amended to reduce the period during which a person may keep live game or a wolf in captivity without a licence from 14 to 10 days.

Section 83 was amended to provide for regulations respecting coupons and tags, calibre and type of fire-arms that may be used in night racoon-hunting and prohibiting and regulating entry on Crown Game Preserves on Crown land. Paragraph 24 of section 83 was amended to bring it in line with the changes made in section 64.

## THE KILLARNEY RECREATIONAL RESERVE AMENDMENT ACT, 1964

The name "Killarney Recreational Reserve" throughout The Killarney Recreational Reserve Act, 1962-63, was changed to "North Georgian Bay Recreational Reserve".

## THE TREES AMENDMENT ACT, 1964

Section 7a was added to The Trees Act to permit the payment by a county to any municipality in which it owns forestry lands of an amount equivalent to the taxes on such lands.

Section 11 of the Act was amended to add a by-law for such payment to the list of by-laws requiring approval of the Minister of Lands and Forests.



## REGULATIONS

Fifty-three regulations made under the authority of the Statutes administered by the Department of Lands and Forests were approved and filed during the fiscal year from April 1st, 1963 to March 31st, 1964.

The following are the regulations which were approved and filed:

### The Conservation Authorities Act

- O.Reg. 78/63 — Amending O.Reg. 294/62 — Fill — Mattagami Valley Conservation Authority
- O.Reg. 91/63 — New — Conservation Areas — Credit Valley Conservation Authority

### The Crown Timber Act

- O.Reg. 333/63 — Amending Reg. 69 of R.R.O. 1960 — General

### The Forest Fires Prevention Act

- O.Reg. 104/63 — Amending Reg. 184 of R.R.O. 1960 — Fire Districts — Tweed and Kemptville
- O.Reg. 290/63 — New — Extension of Fire Season

### The Game and Fisheries Act

- O.Reg. 82/63 — Amending Reg. 189 of R.R.O. 1960 — Fishing Licences
- O.Reg. 126/63 — Amending Reg. 203 of R.R.O. 1960 — Freeman's Bay Fish Sanctuary — Waters Set Apart
- O.Reg. 127/63 — Amending Reg. 204 of R.R.O. 1960 — Long Point, Nottawasaga, Rondeau and Sand Lake Fish Sanctuaries — Waters Set Apart for Periods

### The Game and Fish Act, 1961-62

- O.Reg. 123/63 — New — Guides
- O.Reg. 124/63 — New — Fur Royalties — Fox and Mink
- O.Reg. 137/63 — Revokes O.Reg. 176/62 (part) — Open Seasons — Fur-bearing Animals
- O.Reg. 138/63 — New — Open Seasons — Fur-bearing Animals
- O.Reg. 141/63 — New — Fire-arms — Sunday Hunting
- O.Reg. 152/63 — Revokes Regs. 187 and 191 of R.R.O. 1960 — Bullfrogs and Guides for Angling
- O.Reg. 153/63 — New — Hunting by Aircraft
- O.Reg. 162/63 — Revokes O.Reg. 222/62 — Sale of Bass and Trout
- O.Reg. 163/63 — New — Sale of Bass and Trout
- O.Reg. 164/64 — New — Fishing Huts for Ice Fishing
- O.Reg. 189/63 — New and Revokes O.Reg. 133/62 and 134/62 — Open Seasons — Deer, Moose and Black Bear
- O.Reg. 195/63 — New — Open Seasons — Game Birds
- O.Reg. 226/63 — New and Revokes Reg. 203 of R.R.O. 1960, O.Reg. 345/61, 19/62 and 126/63 — Fish Sanctuaries — Waters Set Apart
- O.Reg. 229/63 — New and Revokes O.Reg. 264/61 — Hunting Licences — Issuance
- O.Reg. 246/63 — Amending O.Reg. 189/63 — Open Seasons — Deer in Bruce County
- O.Reg. 247/63 — New and Revokes Reg. 201 of R.R.O. 1960 and O.Reg. 267/61 and 36/62 — Use of Snares
- O.Reg. 249/63 — Revokes O.Reg. 176/62 (part) — Open Seasons — Fur-bearing Animals
- O.Reg. 250/63 — Amending O.Reg. 123/63 — Licensing of Guides
- O.Reg. 255/63 — New — Open Seasons — Fur-bearing Animals
- O.Reg. 266/63 — Amending O.Reg. 153/63 — Hunting Moose by Aircraft
- O.Reg. 267/63 — Amending O.Reg. 195/63 — Open Seasons — Pheasant on Pelee Island
- O.Reg. 273/63 — Amending O.Reg. 195/63 — Open Seasons — Game Birds — Pheasant in Harwick Township
- O.Reg. 284/63 — New and Revokes O.Reg. 352/61 and 285/62 — Hunting on Crown Lands — townships of Bruton and Clyde

- O.Reg. 285/63 — New and Revokes O.Reg. 259/63
- O.Reg. 286/63 — New and Revokes O.Reg. 322/61 and 256/62
- O.Reg. 297/63 — Amending O.Reg. 195/63
- O.Reg. 298/63 — Amending O.Reg. 189/63
- O.Reg. 299/63 — Amending O.Reg. 189/63
- O.Reg. 310/63 — New
- O.Reg. 319/63 — New and Revokes Reg. 186 of R.R.O. 1960
- O.Reg. 344/63 — Amending O.Reg. 138/63
- O.Reg. 3/64 — Amending O.Reg. 123/63
- O.Reg. 46/64 — Amending O.Reg. 189/63
- The Provincial Land Tax Act 1961-62**
- O.Reg. 233/63 — Amending O.Reg. 343/62
- The Provincial Parks Act**
- O.Reg. 83/63 — Amending Reg. 499 of R.R.O. 1960
- O.Reg. 117/63 — Amending Reg. 498 of R.R.O. 1960
- O.Reg. 151/63 — Amending Reg. 498 of R.R.O. 1960
- O.Reg. 206/63 — Amending Reg. 498 of R.R.O. 1960
- O.Reg. 64/64 — Amending Reg. 498 of R.R.O. 1960
- The Public Lands Act**
- O.Reg. 145/63 — New
- O.Reg. 214/63 — Amending Reg. 524 of R.R.O. 1960
- O.Reg. 268/63 — New
- O.Reg. 29/64 — New
- The Surveys Act**
- O.Reg. 188/63 — Amending O.Reg. 266/61
- The Wilderness Areas Act**
- O.Reg. 251/63 — Amending Reg. 567 of R.R.O. 1960
- Hunting on Crown Lands — Township of South Walsingham
- Hunting in Provincial Parks
- Open Seasons — Game Birds
- Open Seasons — Deer, Moose and Black Bear
- Open Seasons — Deer in Southern Ontario
- Hunting on Crown Lands — Township of Tosoronto
- Buffalo
- Open Seasons — Fur-bearing Animals
- Guides — Vicinity of James Bay
- Open Seasons — Deer, Moose and Black Bear
- General
- General
- Designation of Parks
- Extension of Boundaries — Rondeau Provincial Park
- Designation of Parks — Rainbow Falls Provincial Park
- Designation of Parks — Lake Superior Provincial Park
- Restricted Area — Patricia Portion — District of Kenora
- Sale of Public Lands — Long Point
- Landing of Aircraft on Crown Lands for Hunting
- Restricted Area — townships of Casgrain, Hanlan, Kendall and Way — District of Cochrane
- Monuments
- Wilderness Areas — Pukaskwa Wilderness Area

## ORDERS-IN-COUNCIL

Recommended By The Minister Of Lands And Forests  
During The Year 1963-64

### THE CONSERVATION AUTHORITIES ACT

#### *Numbers of Orders-in-Council*

1095/63;	1724/63;	3379/63;	13/64;
1097/63;	1834/63;	3403/63;	437/64;
1112/63;	1984/63;	3492/63;	586/64;
1461/63;	2270/63;	3493/63;	697/64;
1543/63;	2271/63;	3494/63;	897/64;
1564/63;	2272/63;	3624/63;	899/64;
1626/63;	2337/63;	3731/63;	954/64;
1630/63;	2407/63;	3811/63;	
1631/63;	3034/63;	3915/63;	
1632/63;	3102/63;	3988/63;	

## THE CROWN TIMBER ACT

### *Numbers of Orders-in-Council*

1009/63;	2166/63;	3313/63;	30/64;
1019/63;	2167/63;	3315/63;	143/64;
1059/63;	2168/63;	3316/63;	144/64;
1078/63;	2169/63;	3317/63;	147/64;
1094/63;	2170/63;	3318/63;	196/64;
1096/63;	2265/63;	3415/63;	294/64;
1241/63;	2282/63;	3420/63;	295/64;
1342/63;	2283/63;	3534/63;	359/64;
1343/63;	2340/63;	3536/63;	446/64;
1344/63;	2408/63;	3537/63;	447/64;
1345/63;	2410/63;	3580/63;	458/64;
1366/63;	2411/63;	3581/63;	459/64;
1367/63;	2504/63;	3582/63;	460/64;
1479/63;	2505/63;	3593/63;	461/64;
1480/63;	2506/63;	3599/63;	504/64;
1481/63;	2507/63;	3605/63;	532/64;
1525/63;	2557/63;	3607/63;	547/64;
1587/63;	2558/63;	3610/63;	548/64;
1588/63;	2559/63;	3707/63;	549/64;
1590/63;	2565/63;	3708/63;	641/64;
1592/63;	2573/63;	3709/63;	699/64;
1775/63;	2651/63;	3710/63;	713/64;
1776/63;	2652/63;	3714/63;	731/64;
1831/63;	2800/63;	3715/63;	732/64;
1832/63;	2825/63;	3837/63;	870/64;
1833/63;	2945/63;	3840/63;	871/64;
1992/63;	2946/63;	3888/63;	900/64;
2007/63;	2947/63;	3892/63;	990/64;
2018/63;	2948/63;	3906/63;	998/64;
2019/63;	3056/63;	3907/63;	1007/64;
2061/63;	3241/63;	3913/63;	1008/64;
2063/63;	3288/63;	3932/63;	1009/64;
2064/63;	3292/63;	3933/63;	1014/64;
2128/63;	3293/63;	4050/63;	1015/64;
2129/63;	3296/63;	7/64;	1016/64;
2130/63;	3297/63;	21/64;	1025/64;
2131/63;	3312/63;	22/64;	1035/64;

## THE EXECUTIVE COUNCIL ACT

### *Numbers of Orders-in-Council*

1283/63;	1777/63;	2341/63;	2522/63;
1479/63;	1975/63;	2521/63;	

## THE FOREST FIRES PREVENTION ACT

### *Numbers of Orders-in-Council*

1186/63;

## THE GAME AND FISHERIES ACT

### *Numbers of Orders-in-Council*

1065/63;

## THE GAME AND FISH ACT, 1961-62

### *Numbers of Orders-in-Council*

1589/63;	2103/63;	3200/63;	3397/63;
1591/63;	2133/63;	3290/63;	3533/63;
1689/63;	2595/63;	3291/63;	3535/63;
1753/63;	2740/63;	3294/63;	3606/63;
1755/63;	2749/63;	3295/63;	689/64;
1813/63;	2949/63;	3319/63;	
1814/63;	2950/63;	3386/63;	

## THE LAKE OF THE WOODS CONTROL BOARD ACT, 1922

### *Numbers of Orders-in-Council*

1809/63;	92/64;
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## MISCELLANEOUS

### *Numbers of Orders-in-Council*

1293/63;	1927/63;	2952/63;	1012/64;
1815/63;	2334/63;	3469/63;	
1835/63;	2689/63;	4047/63;	

## THE MUNICIPAL ACT

### *Numbers of Orders-in-Council*

1479/63;	1595/63;	2345/63;	2824/63;
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## THE ONTARIO NORTHLAND TRANSPORTATION COMMISSION ACT

### *Numbers of Orders-in-Council*

2068/63;

## THE PARKS ASSISTANCE ACT

### *Numbers of Orders-in-Council*

1635/63;	2387/63;	3728/63;	94/64;
1711/63;	2524/63;	3729/63;	710/64;
1712/63;	2526/63;	3732/63;	711/64;
1794/63;	3065/63;	90/64;	712/64;
1981/63;	3071/63;	91/64;	720/64;
1982/63;	3723/63;	93/64;	953/64;

## THE PROVINCIAL LAND TAX ACT, 1961-62

### *Numbers of Orders-in-Council*

2662/63;

## THE PROVINCIAL PARKS ACT

### *Numbers of Orders-in-Council*

1066/63;	1732/63;	872/64;
1469/63;	2264/63;	

## THE PUBLIC LANDS ACT

### *Numbers of Orders-in-Council*

1014/63;	1754/63;	2655/63;	3538/63;
1023/63;	1772/63;	2748/63;	3592/63;
1169/63;	1775/63;	2804/63;	3716/63;
1242/63;	1785/63;	2848/63;	3839/63;
1346/63;	1928/63;	2951/63;	3842/63;
1361/63;	2132/63;	3055/63;	3843/63;
1392/63;	2283/63;	3206/63;	3844/63;
1393/63;	2338/63;	3248/63;	145/64;
1394/63;	2339/63;	3298/63;	147/64;
1395/63;	2381/63;	3314/63;	550/64;
1481/63;	2388/63;	3326/63;	630/64;
1597/63;	2509/63;	3400/63;	730/64;
1685/63;	2523/63;	3413/63;	793/64;
1752/63;	2653/63;	3414/63;	1013/64;



## THE PUBLIC SERVICE ACT, 1961-62

### *Numbers of Orders-in-Council*

1725/63; 3640/63; 3841/63; 92/64;

## THE PUBLIC WORKS ACT

### *Numbers of Orders-in-Council*

1526/63; 1993/63; 3326/63; 3599/63;

## THE SURVEYS ACT

### *Numbers of Orders-in-Council*

2062/63;

## THE TERRITORIAL DIVISIONS ACT

### *Numbers of Orders-in-Council*

1301/63;

## THE WILDERNESS AREAS ACT

### *Numbers of Orders-in-Council*

2807/63;

### **Total number of Orders-in-Council — 334**

(Orders-in-Council passed under two statutes are shown in both lists).

## FEDERAL-PROVINCIAL CO-OPERATIVE AGREEMENTS

### Exchange of Land — Nipissing Band of Indians

By an exchange of orders-in-council, the federal order-in-council being PC. 1963-481 and the provincial order-in-council being number 587/63, 2789 acres of a surrendered portion of the Nipissing Indian Reserve No. 10 were exchanged for 2,766 acres of provincial Crown lands in the townships of Beaucage and Commanda for the purpose of consolidating the Indian holdings in the two townships and preventing the necessity of costly surveys before the Indians can continue their timber cutting operations on their lands.

### Hearst Aerodrome

By an agreement dated the 15th day of July, 1963, between Ontario and Canada, Canada assigned to Ontario the rights in certain leases and licenses on the Hearst Aerodrome which was transferred to Ontario by Order-in-Council P.C. 1962-1444.

### The Statistics Act, 1962-63

By an agreement dated the 3rd day of March, 1964, between Canada, as represented by the Minister of Trade, and Ontario, as represented by the Minister of Lands and Forests and the Minister of Economics and Development, made under The Statistics Act, 1962-63, the three departments agreed to co-operate in the collection and exchange of statistical information related to establishments engaged in producing or using forest products. Under the agreement the Department of Economics and Development will provide stamped self-addressed envelopes and explanatory letters to be sent out by Canada, Canada will supply an extra copy of the forms to the establishments and Lands and Forests will share in the responsibility for the collection of delinquent returns.



Beavers at the Lands and Forests display, Canadian National Exhibition, are always popular.



A forestry technician speaks on forest fire prevention to Parry Sound District school children.



## OPERATIONS BRANCH

IN THE fiscal year under survey, Operations Branch was composed of four sections:

- Office Management Section
- Central Supply Warehouse Section
- Conservation Information Section
- Conservation Education Section

*Office Management Section* directs most of the purchasing for the Department including all pertinent aspects such as tenders, quotations, the processing of requisitions for stationery, equipment and services for the whole department, expediting, the study of ever-changing products and other allied functions. It is also responsible for the inventory and control of office furniture and equipment, the control of supply and demand for uniforms, and the liaison required in the organization of conferences, meetings, etc.

*Central Supply Warehouse Section* has charge of receipt and maintenance of stock, the keeping of stock records, and the supply of equipment.

*Conservation Information Section* issues a weekly news and special press releases; operates a photographic, slide and cut service; handles a large volume of correspondence and personal enquiries on the use of renewable, natural resources; prepares special articles and background material for outside agencies; prepares and places both display and classified advertisements; maintains a reference library; and publishes several scores of books, pamphlets and reports for departmental use in general distribution.

*Conservation Education Section* is responsible for the production and management of departmental displays and exhibits throughout the province (including the Canadian National Exhibition); for poster contests for school children; for the production of motion picture films dealing with fire control, timber products, fish and wildlife resources and parks, and for the maintenance of a film library; for the preparation and delivery of lectures and discussions in schools and camps; and for radio and television broadcasts.

### OFFICE MANAGEMENT SECTION

#### Purchasing Subsection

This service, charged with the procurement of supplies and service for the Department throughout the province, experienced a widespread activity, covering purchasing and its related aspects as well as other diversified duties.

In the fiscal period under review, there were received over 10,000 requisitions for supplies and service which were the basis for the issuance of 4,891 direct purchase orders, 1,953 Queen's Printer stationery orders, 469 Queen's Printer printed orders, 312 Public Works requisitions. In an analysis of work performed, the following activities were most often noted:

1. receipt and recording of all requisitions from Head Office and Regional and District Offices, requiring decision as to what could be supplied from stock and what was to be ordered;

# OPERATIONS BRANCH

CHIEF  
P. O. RHYNAS

ASSISTANT CHIEF  
C. V. RICH

CENTRAL SUPPLY  
WAREHOUSE SUPERVISOR  
M. TOMS

PURCHASING & OFFICE  
MANAGEMENT  
SUPERVISOR  
M. A. GONTIER

U. W. Fiskar  
Superintendent  
Algonquin Park

Secretary  
V. Valquette

OFFICE MANAGEMENT  
Sub-Section Supervisor  
A. F. MADORE

PURCHASING  
Sub-Section Supervisor  
G. A. HARPER

Budget Control  
& Uniforms  
Equipment Inventory  
J. M. MacTaggart  
Circular Production  
& Clerical  
N. J. Johnson  
Personnel Staff Records  
and Seasonal Staff  
Requirements  
A. Henry

General Procurement  
W. H. Smith  
Purchase Order  
Preparation  
S. Harvey  
Purchasing Clerk  
M. Hargreaves  
Stock Card & Records  
M. Buck  
Invoice Accounting  
D. Sibley  
Clerk-Stenographer  
J. Langabeer

## RECORDS

Custodian  
R. N. Black  
Ass't Custodian  
E. B. Humbolt  
Filing Clerks  
E. Makarow  
Register Typist  
M. Brown  
M. Scales  
Microfilm Recording  
H. Watson  
J. Mills  
Personnel Messenger

Warehouse Foreman  
J. S. Scott  
A. J. Doerr  
A. Davey  
G. S. Jarvis  
D. McIntyre  
F. Wilkison  
J. L. Jones  
R. Baker  
Collating  
F. Swenor  
A. Young  
Truck Driver  
R. Rankin  
R. Walker

Duplicating Machine  
Foreman  
R. Perryman

Duplicating Operators  
D. Warford  
F. Scharf  
G. Howarth  
A. Waghorn  
P. Jesshope  
Varytipping  
S. Scipozzo  
H. Ross  
Camera Technician  
H. Jarvis

CONSERVATION  
INFORMATION SUPERVISOR  
R. V. WHELAN

CONSERVATION EDUCATION  
SUPERVISOR  
C. V. RICH (ACT'G)

News Release  
G. F. Reding

Secretary  
E. Ievers

Secretary  
Vacancy

Branch Chief  
Secretary  
G. H. Robinson  
Clerical  
B. Dagz

ASST SUPERVISOR  
Vacancy

Publications  
J. Tiller  
R. McPherson  
J. H. Jones  
R. A. Harman  
Information  
K. Mackenzie  
R. Robertshaw  
Library & Clipping  
Service  
B. Froom  
R. Creighton  
Photo Library  
E. Thomas  
B. Gooch  
Darkroom &  
Photography  
W. Masters  
T. Jenkins  
F. M. Dawson

ASST SUPERVISOR  
Vacancy

Office Manager  
J. A. Wise  
Stenographer  
Vacancy  
Exhibits  
D. Hendry  
A. Olmryk  
Projectionist  
W. D. Willis  
Information Officer  
V. Seddon  
Commercial Artist  
J. Bedington



2. investigation and procurement procedures for all purchases, including also direction, preparation of all direct purchase orders and requisitions to the Queen's Printer and the Department of Public Works, and expediting of same;
3. quotation calls, opening of same in committee and recommendations;
4. liaison between this Department and the Department of Public Works for office and other space requirements throughout the province and for which leases and rentals are arranged and other related matters attended to;
5. processing of invoices in conjunction with receipt of goods, maintenance and oversight in releasing invoices for payment;
6. supervision of telephone and lighting demands, moving and other internal and external office requirements;
7. arrangements for accommodations, travel, conferences, etc.;
8. correspondence, preparation of reports;
9. special assignments.

Search was made from time to time, for new developments in office equipment and supplies. On occasion, they were brought to this section's attention, at other times they were found in the course of investigation. Where it was deemed advisable, these new developments in products and services were communicated to branch and district offices.

### Office Management Subsection

Office Management Subsection is responsible for office services and the preparation of estimates which includes equipment and supplies, stationery and office outfitting, travel, maintenance and operating, payrolls, uniforms, publications and public appeals.

1. *The inventory of all major equipment* in the Province belonging to the Department. This includes trucks, cars, boats, canoes, power plants, shop equipment, tools, fire hose, outboard motors, office machines, etc. There are some 2,000 power units including mobile, marine and stationary.
2. *Circulars and Bulletins.* All Circulars and Bulletins required by the Department are processed through this section after they are approved by the Circular Board. This involves the cutting of stencils, the follow-up through the duplicating room, and distribution. All revisions of circulars and bulletins in effect in the branch are carried through by this section.
3. *Uniforms.* There are approximately 1,500 approved personnel in uniform on the staff of this Department including seasonal Parks staff. A continuous record was kept of each individual's uniform account which was checked against requisitions for uniform items, and requisitions were approved according to scale of issue. Included in the estimates for the coming fiscal year must be an accurate estimate of funds required for the uniform programme.
4. *Records.* Records pertinent to all Crown Lands of the Province are controlled through the Records Office. Assembly, indexing and classification of all incoming correspondence, compiling of new files and distribution to the offices in which officials required any particular files, were the main responsibilities of this office. An average of 425 files were sent out and returned daily. Every new letter pertaining to any of 308,000 files was recorded, sent to the pertinent offices for handling and finally added to the proper file for record. During the current fiscal year, record files up to and including all plans and surveys to the end of 1922 were microfilmed.
5. *Boat Licensing.* This Subsection is responsible through the Federal Department of Transport for the processing of applications for licenses for all

Department boats. Some marine units of the Department require only a licence number, and others require registration showing home port, tonnage, dimensions, etc., depending on the specifications of the marine unit in question. Specifications of the boats supplied to this section were used to prepare the necessary applications for licences.

6. *Special Assignments.* Because of the nature of this work, there was almost a daily demand for services where immediate action and organization was required.

## CENTRAL SUPPLY WAREHOUSE SECTION

This Section is responsible for receipt of stock, housing and distribution of stationery supplies, fish and game licences, and uniform articles to our Head Office and districts throughout the Province.

A cross-section of statistics is outlined below as a guide to the volume of work handled in the Central Supply Warehouse.

### STOCKROOM

Tonnage received from April 1st, 1963, to March 31st, 1964.

Ton	Cwt.	Lbs.
319	3	66

Shipments were made by express, freight, transport and mail, and also by internal supply to Department offices throughout the City.

Tonnage shipped from April 1st, 1961, to March 31st, 1962.

Ton	Cwt.	Lbs.
247	5	42

### DUPLICATING, COLLATING AND DISTRIBUTING

Work in this subsection was most active and demanding as usual. The reproduction of forms, reports, booklets, letters, circulars and bulletins is continuously being revised each year.

Distributing and collating were as follows:

Information Bulletins .....	55,130
Circulars .....	30,110
News Releases .....	119,600
Extracts from Fishery Regulations .....	9,954
Game and Fish Act and the Fishery Regulations .....	37,930
Summary of Ontario Hunting Regulations .....	447,537
Booklet, Our Forest Lands, and letter .....	484,900
Summary of Fishery Regulations .....	582,678
Miscellaneous Stapling and Distributions .....	151,002
<b>TOTAL .....</b>	<b>1,918,841</b>

### LICENCE ISSUING

There were more than thirty types of hunting, angling, bait fish, roll net, dip net, frog, guide, trapping and trap-line licences issued to licence issuers and our own district offices throughout the Province. Certain licences were also sent to issuers in the U.S.A.

The number of licences prepared and checked for mailing and express totalled 1,542,810; they were forwarded on 17,106 invoices to more than 3,000 issuers.

In addition, 170,400 Provincial Park Annual Vehicle Entrance Permits,

518,100 Daily Permits, 369,230 Campsite Permits and 291,400 Fur Seals were distributed by this subsection.

## UNIFORM STOCKROOM

The Department's Uniform Stockroom is also located in this Section. A stock of replacement uniform articles is carried and issues are shipped to personnel as authorized by requisitions.

## CONSERVATION INFORMATION SECTION

The Section disseminates information on the protection and management of the renewable, natural resources under the Department's administration. It works through many media to bring to as many people as possible a better understanding of Lands and Forests policies and conservation principles.

## NEWS

The Lands and Forests news release is mailed every week to all newspapers and all radio and television stations in Ontario. Its circulation of 2,260 includes class magazines, outdoor writers, conservation groups and hunters' and anglers' clubs and associations. It delivers Department news and regulations and informed opinion in a form easily adapted by outside agencies. The use of news release material by outdoor writers and commentators in the United States contributes importantly to Ontario's tourist trade.

Professional and public service groups are concerned to secure public notice through the news release's advance listing of conventions and other events of interest to sportsmen, naturalists, conservationists and professions and industries which touch upon Lands and Forests administration.

News of more than normal urgency is carried by spot press releases which go directly to important news outlets.

## CORRESPONDENCE

During the past fiscal year, the Section returned 32,000 answers by mail to persons requesting information on such subjects as hunting and fishing regulations, camping facilities, tourist accommodations, summer cottage properties, conservation, and the purchase and planting of forest tree seedlings. Many requests came from students and teachers who asked for information of a scientific nature.

In addition, the Section answered numerous requests for information in person and over the telephone.

## PHOTOGRAPHS

The Section loaned approximately 9,200 black-and-white prints to newspapers and magazines during the past fiscal year; it also loaned cuts to publishers and transparencies to lecturers.

The Section operates a darkroom and a photograph library which contains approximately 38,000 negatives and 3,800 colour transparencies. Standard 8" x 10" prints are supplied immediately or at short notice. Sets of slides or prints are supplied to illustrate lectures on fish, trees and shrubs.







APPEALS

Special appeals are prepared for news media to enlist public support of Lands and Forests programmes, principally in forest fire prevention and hunter safety.

Special material is prepared and distributed to schools with the approval of the Department of Education.

During the past fiscal year, 178 advertisements were placed in 101 newspapers to call for tenders on timber cutting, etc.

EDITORIAL SERVICE

The concentration of conservation messages is increased by services performed for outside agencies. Articles are written on request for newspapers and magazines when the subject is related to some aspect of Lands and Forests operations. Background material is prepared on request for outside writers and commentators. Speech material is sometimes prepared for Department personnel who are invited to address meetings of sports clubs, conservation groups and service organizations.

LIBRARY

The Section's reference library contains copies of all Lands and Forests publications and a variety of books, periodicals and press clippings; it includes early reports and legislative journals dating from 1856.

Publications

Lands and Forests publications cover many fields of interest to the general public and to special groups. As new material becomes available, new publications are issued and earlier releases are revised.

The Department publication, "Fishes of Ontario", was awarded Second Prize in the continent-wide competition concluded at the 1964 annual meeting of the American Association for Conservation Information.

The following listing of books, booklets, folders and leaflets does not include technical papers, management reports, textbook covers nor posters (*\*indicates publications issued during the 1963-64 fiscal year*).

CONSERVATION AUTHORITIES

- Conservation Reports
- Conservation Authorities in Ontario
- Conservation Badges

FISH AND WILDLIFE

Fishes of Ontario .....	\$2.50
Sport Fishes of Ontario (chart in colour) .....	\$1.00
Fishing in Lake Simcoe .....	\$1.00
Guide's Manual .....	\$0.25
Why Hunter Safety Training ? .....	
*Where to Fish in Southern Ontario .....	
*Where to Fish in Northeastern Ontario .....	
*Where to Fish in Northwestern Ontario .....	
*Fishing in the Bay of Quinte .....	
*The Ten Commandments of Hunter Safety .....	
*The Game and Fish Act and the Ontario Fishery Regulations .....	
*Extract from the Ontario Fishery Regulations (Poster) .....	
*Summary of the Ontario Fishery Regulations .....	
*Summary of the Ontario Hunting Regulations .....	
*Summary of the Ontario Big Game Hunting Seasons .....	
*Summary of the Ontario Regulations Which Apply to Trapping and Fur Dealing .....	

## FOREST PROTECTION

- Dutch Elm Disease in Ontario
- Operation: Survival in the Woods
- Early Days
- \*The Forest Fires Prevention Act

## LANDS AND SURVEYS

- List of Water Powers ..... \$0.75
- List of Geographic Townships ..... \$0.50
- Price List of Lithographed Maps and Plans
- \*Summer Resort Lands in Ontario (revised)
- \*The Public Lands Act

## LAW

- Complete Set of 21 Acts Administered by the Department  
(without binders) ..... \$5.00

## OPERATIONS

- Meet the Wildlife of Ontario's Outdoors ..... \$0.35
- Camping in the Muskoka Region ..... \$2.00
- Early Days in Haliburton ..... \$2.50
- Our Forest Lands and What We Get from Them (juvenile)
- A Teacher's Guide to Forest Conservation
- The Birch Bark Canoe
- The Pointer Boat
- Tower Jack (leaflet)
- Dictionary of Terms
- Brief Messages
- Common Trees (spruce, white pine, jack pine, yellow birch, sugar maple)
- Common Birds (bluebird, black-capped chickadee, white-throated nuthatch, flicker, evening grosbeak, rose-breasted grosbeak, song sparrow, white-throated sparrow, scarlet tanager)
- Common Mammals (beaver, black bear, coyote, red fox, muskrat, otter, cottontail rabbit, squirrels, timber wolf, woodchuck)
- Administrative Branches Chart
- \*How to Survive in the Woods (revised)
- \*Landlocked Sea Lamprey
- \*Lumber in Ontario
- \*Pulp and Paper in Ontario
- \*Death of a Forest (leaflet)
- \*Ontario Resources Atlas (revised) ..... \$1.00
- \*List of Publications for Distribution (revised)
- \*List of Technical Publications for Distribution
- \*List of Natural Science Booklets and Their Source (revised)
- \*A Statistical Reference of Lands and Forests Administration
- \*Annual Report of the Minister of Lands and Forests
  - Part I — Detailed
  - Part II — Highlights
- \*Forest District Histories
  - 1. Kapuskasing
  - 2. Geraldton
  - 3. Lake Huron
  - 4. Port Arthur
  - 5. White River
  - 6. Sioux Lookout
  - 7. Lake Simcoe
  - 8. Fort Francis

## PARKS

- Algonquin Story ..... \$2.50
- Algonquin Provincial Park
- Quetico Provincial Park
- So You Want to Go Camping?
- Canoe Routes — Algonquin
- Canoe Routes — Quetico
- Check List of Birds — Algonquin
- Check List of Birds — Rondeau

Check List of Trees, Shrubs and Woody Vines — Algonquin  
 Check List of Trees, Shrubs and Woody Vines — Rondeau  
 Check List of Ferns, Fern Allies and Herbaceous Flowering Plants —  
     Algonquin  
 Check List of Ferns, Fern Allies and Herbaceous Flowering Plants—  
     Rondeau  
 Check List of Mammals — Algonquin  
 Check List of Fishes, Amphibians and Reptiles — Algonquin  
 Reptiles of Algonquin Park  
 A Guide to Anglers in Algonquin Provincial Park  
 Provincial Parks in Ontario (Can. Geog. Jour.)  
 \*Provincial Parks of Ontario (revised)  
 \*Watch It! (folder)  
 \*H.M.S. Nancy and the War of 1812

## PERSONNEL

\*Ontario Forest Ranger School (Prospectus, revised)  
 \*Ontario Forest Ranger School (Information brochure, revised)  
 \*Ontario Forest Ranger School Year Book  
 \*Ontario Junior Forest Ranger Programme

## RESEARCH

The Glackmeyer Report of Multiple Land-Use Planning ..... \$4.00

## TIMBER

The Forest Trees of Ontario ..... \$0.50  
 Hardwood Trees of Ontario ..... \$0.50  
 Fifty Years of Reforestation in Ontario ..... \$0.50  
 The Farm Woodlot  
 Care and Planting of Forest Trees  
 Forest Tree Planting  
 Directory of Primary Wood-Using Industries for Ontario  
 The G. Howard Ferguson Forest Station  
 Orono Forest Station  
 Midhurst Forest Station  
 \*Thunder Bay Forest Station  
 \*St. Williams Forest Station  
 \*Manual of Seed Collecting (revised)  
 \*Planning for Tree Planting (revised)  
 \*The Forest Resources of Ontario

## CONSERVATION EDUCATION SECTION

Conservation Education Section conducts an educational programme which consists of the type of appeals calculated to attract public interest and explain in easily understandable terms the need for the wise use of renewable, natural resources.

### Visual Education

Head Office Film Library contains 260 titles, with two or more prints of many of the titles. All films are available for loan to Field Offices upon request. During the year, 1,400 films were shipped to Field Offices in answer to requests received. Each District has its own projector and it has access to Regional Film Libraries as well as Head Office Film Library.

This Section loaned 16 mm motion picture projectors, 35 mm projectors, screens and films to the Provincial Parks offering an interpretive programme to the public during the summer months.

## 16 mm FILM

Several thousand feet of motion picture film are available and are being used by TV outlets throughout the Province. The Section completed production of a new film entitled "Flames in the Forest." During the year, the following films were added to Head Office and Field Film Libraries:

- Around a Big Lake
- Canoe Country
- Conservation and the Balance of Nature
- Death is a Careless Hunter
- A Fire Called Jeremiah
- Forest Fire Suppression
- Gunning the Flyways
- I'm No Fool with Water
- The Key Man Series
- Marsh Harvest
- Poisons, Pests and People
- Pulp and Paper from Canada
- This is the Mallard
- Trees and Their Care
- Trout Stream
- Waterfowl Heritage

## RADIO AND TELEVISION

Radio and television stations throughout the Province have been most generous in their donations of free time to the Department, and Districts regularly take advantage of these opportunities to reach the public. In addition to radio programmes, several Districts now conduct regular, live television broadcasts of their own. This Section also supplies Districts with films for use on television.

## Exhibits

Visual conservation appeals are featured in the Department's exhibits at many of the shows and fairs in Ontario. Full co-operation was given to District Offices participating in sportsmen's shows and agricultural fairs such as the Western Fair at London, the International Plowing Match at Caledon and the Timmins Sportsmen's Show. The major exhibits handled through Head Office were as follows:

### CANADIAN NATIONAL EXHIBITION, TORONTO

Displays consisted of a very realistic forest fire scene, a portable setting of the Snakes of Ontario and a display of new and some very old survey equipment and maps. Other exhibits featured were Hunter Safety Training, Timber, Provincial Parks, the fish, animals and birds, and the Children's Poster Contest. A nature trail was arranged on the mound with cages containing birds and small animals. Various species of trees were planted which were identified by sign cards. Featured on the mound was an Indian showing his skill in carving canoe paddles and axe handles.

The Conservation Poster Contest for elementary school children from six to fourteen years of age was held again this year. A Grand Prize of \$100.00 was presented for the best poster. First, second and third prizes, in each of three age groups, in amounts of \$50.00, \$25.00 and \$15.00, were awarded. Thirty Honourable Mentions, ten in each age group, were presented with books.

### CANADIAN NATIONAL SPORTSMEN'S SHOW, TORONTO

This year, our exhibit was enlarged to approximately fifteen thousand square feet and featured Ontario's game fish and wildlife and the snakes, Forest Protection



featuring a full size lookout tower cabin, Parks, Hunter Safety Training, and Ontario furs. The making of canoe paddles and axe handles by an Indian was also featured.

## CENTRAL CANADA EXHIBITION, OTTAWA

A display of Timber, featuring the forest activities of Eastern Ontario, was the theme of the show. Also included were game fish, animals and birds of Ontario, and a Provincial Parks display.

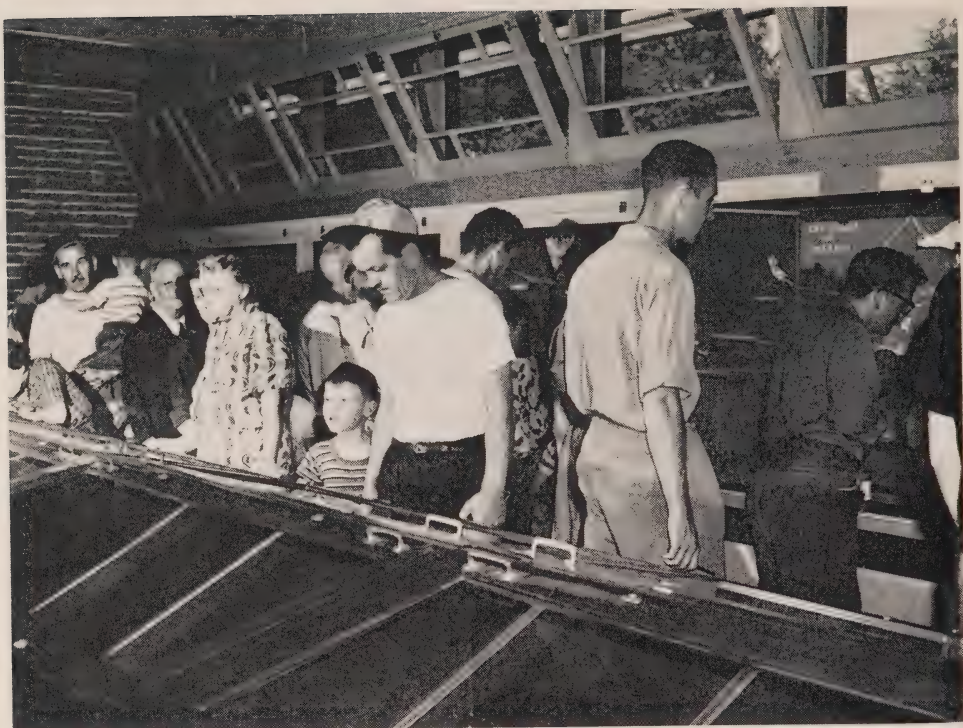
## ROYAL AGRICULTURAL WINTER FAIR, TORONTO

The display theme was the growing of trees from seed, with a talk by Foresters explaining a tree from seed to sawmill. A display of wildlife was included.

### Lecture Tours

Officers of the Department keep in constant touch with the public through fish and game associations, schools, church groups, service clubs and youth organizations. Illustrated lectures are given on all aspects of the Department's work. The following table provides a summary of the public lectures delivered by Head Office and Field Staff during the fiscal year. A summary of lecture tours which were carried out by the Ontario Forestry Association during the same period are included in the Department's figures.

Region	District	School Meetings		Public Meetings		Total	
		No.	Attend.	No.	Attend.	No.	Attend.
Western	Fort Frances	1	300	23	1513	24	1813
	Kenora	7	397	29	3877	36	4274
	Sioux Lookout	22	2494	6	197	28	2691
Mid-Western	Geraldton	31	2850	38	2641	69	5491
	Port Arthur	4	90	101	9104	105	9194
Northern	Cochrane	79	13019	29	1185	108	14204
	Kapuskasing	28	2578	49	1513	77	4091
	Swastika	7	953	62	3881	69	4834
Central	Chapleau	7	966	7	314	14	1280
	Gogama	10	429	15	1529	25	1958
	Sault Ste. Marie	13	945	46	3518	59	4463
	Sudbury	53	4958	22	1230	75	6188
	White River	15	2199	6	261	21	2460
South-Central	North Bay	41	7907	70	4737	111	12644
	Parry Sound	68	4484	75	6504	143	10988
South-Eastern	Kemptville	124	5036	181	11086	305	16122
	Lindsay	58	2851	147	12007	205	14858
	Pembroke	2	451	182	27061	184	27512
	Tweed	116	6328	148	9671	264	15999
South-Western	Lake Erie	63	4202	220	16844	283	21046
	Lake Huron	18	1022	200	10138	218	11160
	Lake Simcoe	110	8314	439	31157	549	39471
Ontario Forestry Association				398	42267	398	42267
TOTALS		877	72773	2493	202235	3370	275008



Provincial park museums feature local flora and fauna. Here, visitors view displays at Algonquin Provincial Park's museum.



Dinner time at Kettle Lakes Provincial Park, Cochrane District.



## PARKS BRANCH

THE responsibilities and functions of Parks Branch are as follows: Provision, operation and maintenance of provincial parks as public recreational lands;

Examination of potential park areas;

Recommending potential and proposed park areas to the Ontario Parks Integration Board;

Production of detailed master plans for provincial parks;

Development of provincial parks in accordance with the master plans;

Design and construction of provincial park structures and buildings;

Establishment, operation and maintenance of interpretive programmes and exhibits in provincial parks of natural and/or historical significance; and

Collection, compilation and assessment of provincial park statistics.

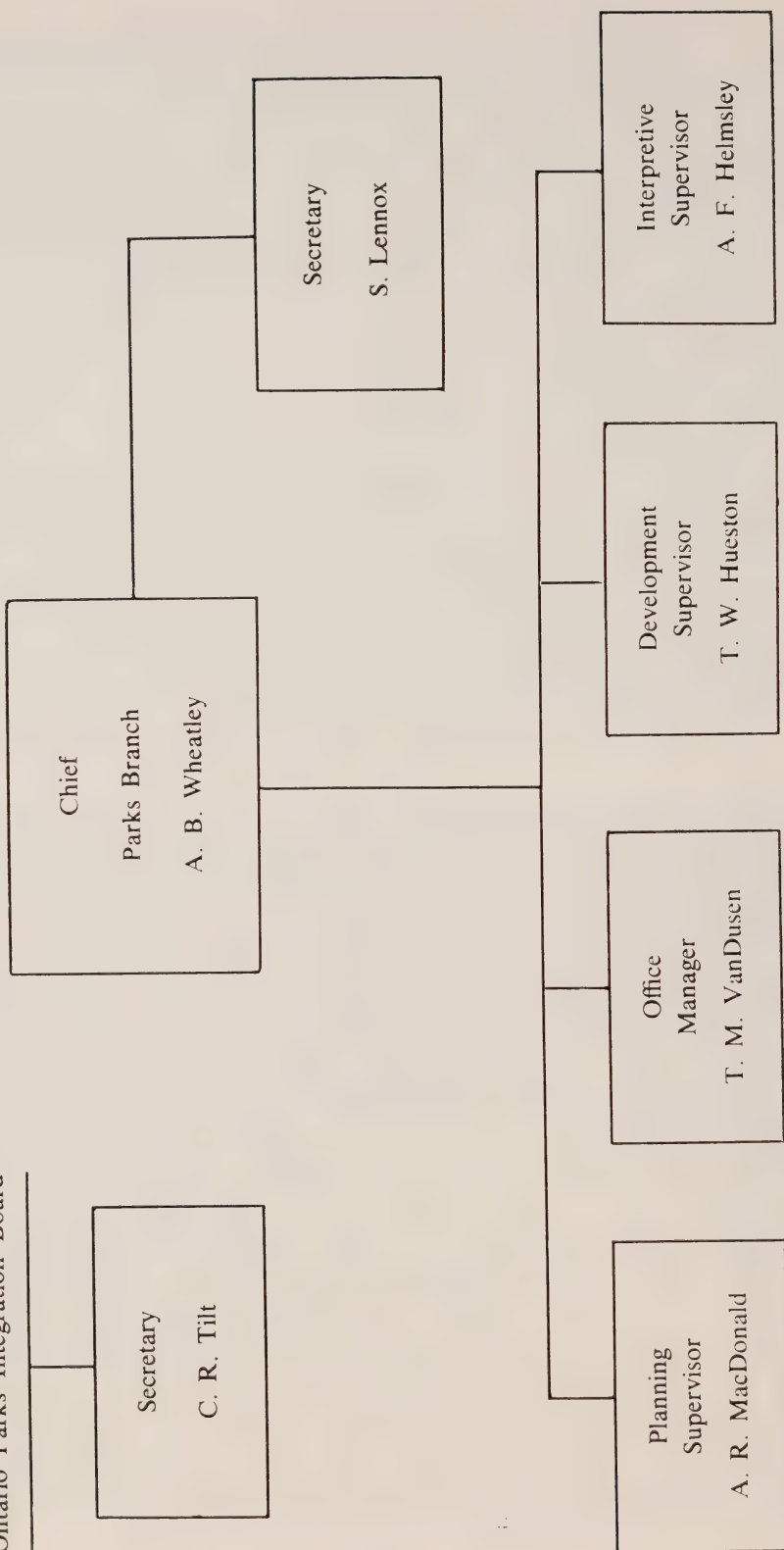
In 1963 there were 86 provincial parks totalling 3,696,368 acres open for public use. Of these, seven were maintained without fees being charged. In addition there were 49 areas consisting of 655,384 acres, reserved for future development.

There were no changes in provincial park fees which consisted of the annual vehicle entry permit of \$3.00, the daily vehicle entry permit of fifty cents, the boat entry permit of \$5.00 for entry by water into Quetico Provincial Park, and daily campsite permit fee of \$1.00.

Again, an increase in park use was experienced in the 9 per cent visitor increase to 8,526,443. The method of compiling camper statistics for 1963 was

PARKS BRANCH

Ontario Parks Integration Board





changed. In compiling camper statistics in previous years no consideration was made for campers who purchased more than one campsite permit in one park during a single continuous period of camping. Consequently those persons in the camping party were counted two or three times, depending upon the number of permits issued. For 1963, the number of campers on other than the originally issued permit in a park were not counted. This is the reason for the reduction in the number of campers in 1963, as compared to 1962. There was, however, a 12 per cent increase in camper use in 1963. Wilderness campers using the interior waterways of Algonquin and Quetico Provincial Parks totalled 47,114.

An appropriation of \$1,150,000 was made available for the development of provincial parks. The number of camping units was increased in 1963 by 769, making a total of 14,458, thus providing accomodation for approximately 60,000 campers at one time. The construction of 131 earth pit toilets, five flush type comfort stations, two picnic shelters and seven change houses added to the facilities available for the park user. Other additional improvements to park facilities included: 6520 feet of beach, 27 acres of overflow camper area, 22 wells, 16 miles of walking and hiking trails, two outdoor exhibit centres and two amphitheatres.

Interpretive programmes of conducted trips, illustrated lectures and labelled trails were continued in Algonquin, Rondeau, Sibley, Presqu'ile, Quetico and Pinery Provincial Parks. The Algonquin Park Museum and the Logging Exhibit, the Presqu'ile Park Museum, the temporary museums in Rondeau, Sibley and Quetico Provincial Parks, Sibbald Memorial Museum in Sibbald Point Provincial Park and Nancy Island Museum at Wasaga Beach Provincial Park were again open during the summer season. A programme of conducted trips and evening film presentations was continued in Lake Superior Provincial Park. Labelled trails were continued in Inverhuron and Kap-Kig-Iwan Provincial Parks. Exhibit centres were again open in Serpent Mounds and Inverhuron Provincial Parks to interpret the archaeological significances of these areas. A new exhibit centre was established in Craighleith Provincial Park to interpret the geology and fossils, which are predominant features of the Park. These programmes and interpretive facilities, designed to familiarize visitors with the natural and/or historical significances of these provincial parks, were used this year by 495,014 park visitors, an increase of 1.5 per cent over last year's figure of 487,395. There is no measurement of the attendance of exhibit centres.

Waterfowl shooting, during the regular open season, was continued in Rondeau, Presqu'ile, Darlington and Holiday Beach Provincial Parks. Earl Rowe Provincial Park was opened to pheasant shooting the fall of 1963 while this activity was continued in Sibbald Point, Darlington and Presqu'ile Provincial Parks.

The hunting of deer, moose and bear in the Townships of Bruton and Clyde, Algonquin Provincial Park was continued under a system of regulated hunting camp permits. Lake Superior Provincial Park was again open to moose hunters.

Pinery, Darlington and Kakabeka Falls Provincial Parks again provided facilities for winter activities. Two toboggan slides were established in Kap-Kig-Iwan Provincial Park. The number of skating rinks was increased by three, making a total of five rinks available for winter users. A total of 51,672 persons visited the four parks in which winter use facilities are available.

Table No. 1 (a)

PROVINCIAL PARKS IN OPERATION  
(as of March 31, 1964)

Administrative District	Name of Park	Date Established
Lake Erie	Clay Creek	Sept. 29, 1958
	Holiday Beach	Oct. 6, 1958
	Ipperwash	June 24, 1938
	John E. Pearce	June 25, 1957
	Long Point	May 3, 1921
	Pinery	Oct. 11, 1957
	Port Bruce	
	Rock Point	June 25, 1957
	Rondeau	May 5, 1894
	St. Williams	
	Turkey Point	April 21, 1959
Chapleau	Five Mile Lake	Sept. 29, 1958
Cochrane	Greenwater	June 25, 1957
	Kettle Lakes	June 25, 1957
Fort Frances	Caliper Lake	July 22, 1960
	Lake of the Woods	
	Quetico	April 1, 1909
Geraldton	Blacksand	July 22, 1960
	Klotz Lake	July 22, 1960
	MacLeod	May 1, 1963
	Neys	
	Rainbow Falls	May 22, 1963
Gogama	Ivanhoe Lake	June 25, 1957
Lake Huron	Craigleith	
	Inverhuron	
	Sauble Falls	
Kapuskasing	Nagagamisis	June 25, 1957
	Remi Lake	June 25, 1957
Kemptonville	Fitzroy	May 21, 1963
	Rideau River	May 21, 1963
	Silver Lake	Sept. 29, 1958
	South Nation	July 22, 1960
Kenora	Aaron	Sept. 29, 1958
	Blue Lake	July 22, 1960
	Rushing River	Sept. 29, 1958
	Sioux Narrows	June 25, 1957
Lindsay	Balsam Lake	
	Darlington	Oct. 30, 1959
	Emily	June 25, 1957
	Mark S. Burnham	July 26, 1955
	Presqu'île	May 18, 1922
	Serpent Mounds	June 25, 1957
Lake Simcoe	Bass Lake	June 25, 1957
	Devils Glen	
	Earle Rowe	
	Sibbald Point	Dec. 23, 1957
	Six Mile Lake	Feb. 24, 1958
	Springwater	Sept. 29, 1958
	Wasaga Beach	Aug. 31, 1959

# PROVINCIAL PARKS IN OPERATION

(as of March 31, 1964)

Table No. 1 (a)

Administrative District	Name of Park	Date Established
North Bay	Antoine	
	Finlayson Point	May 21, 1963
	Marten River	July 20, 1960
	Samuel de Champlain	
Parry Sound	Grundy Lake	April 21, 1959
	Killbear Point	
	Mikisew	
	Oastler Lake	
	Restoule	May 21, 1963
	Sturgeon Bay	July 22, 1960
Pembroke	Algonquin	May 27, 1893
	Carson Lake	
	Driftwood	May 21, 1963
Port Arthur	Inwood	Sept. 29, 1958
	Kakabeka Falls	
	Middle Falls	July 22, 1960
	Sibley	Jan. 13, 1944
Sault Ste. Marie	Batchawana	
	Lake Superior	Jan. 13, 1944
	Mississagi	
	Pancake Bay	
Sioux Lookout	Ojibway	May 21, 1963
	Pakwash	
Sudbury	Chutes	
	Fairbank Lake	June 25, 1957
	Killarney	
	Windy Lake	April 4, 1959
Swastika	Esker Lakes	June 25, 1957
	Kap-Kig-Iwan	June 25, 1957
Tweed	Black Lake	Sept. 29, 1958
	Bon Echo	
	Lake on the Mountain	June 25, 1957
	Lake St. Peter	
	Outlet Beach	May 21, 1963
	Sandbanks	
White River	Obatanga	
	White Lake	May 21, 1963

Table No. 1 (b)

## PROVINCIAL PARKS UNDER DEVELOPMENT

(as of March 31, 1964)

Administrative District	Name of Park
Kenora	Pipestone
Lake Huron	Point Farms
Lake Simcoe	Mara
North Bay	W. B. Greenwood

Table No. 1 (c)

PROVINCIAL PARKS ESTABLISHED BUT NOT IN OPERATION  
(as of March 31, 1964)

Administrative District	Name of Park
North Bay	Mashkinonje
Port Arthur	Arrow Lake

Table No. 2

RECORD OF PARK USE

Administrative District And Park Name	1960	Total Visitors 1961	1962	1963	1960	Total Campers 1961	1962	1963
<b>LAKE ERIE</b>								
Clay Creek	29719	30393	39587	22010	1022	2084	2189	804
Holiday Beach	154196	158843	155842	222275		919	1515	2612
Ipperwash	253346	187945	199494	159256	25398	23002	23873	14078
Long Point	112405	203121	178434	209386	17631	24388	23311	18646
Pinery	371866	301665	329259	355946	37008	53551	64842	50202
Rock Point		12963	20759	25273		1103	2721	3458
Rondeau	693631	642020	686337	647181	24726	30703	36101	29863
St. Williams	38057	32981	19650	22433				
Turkey Point		16457	342457	278600		5610	10048	10530
<b>LAKE HURON</b>								
Craigleith	58988	60396	70769	57600	13928	15180	16104	12389
Inverhuron	85550	97986	115860	105111	18247	21742	25636	16673
Sauble Falls	141119	178298	166219	174487	11544	12981	15135	9031
<b>LAKE SIMCOE</b>								
Bass Lake	139840	199991	166276	103942	18559	20423	23202	16175
Devils Glen	68805	81367	71110	81215	3149	3116	3158	2417
Earl Rowe	44366	60248	69707	82579	3540	5298	5849	5631
Sibbald Point	379901	325206	342168	316662	35535	42636	49762	31649
Six Mile Lake	46758	80057	100841	109157	8714	12878	15210	13156
Springwater	113620	109686	98344	110188				
Wasaga Beach			518136	789746				
<b>KEMPTVILLE</b>								
Fitzroy		51328	58985	94596		7364	9824	7496
Rideau River	174255	144756	198945	206921	12379	14689	18068	13034
Silver Lake	81288	68082	91465	106393	13787	16569	19442	11928
South Nation	49734	42810	40343	44503	5347	5189	6148	5748
<b>LINDSAY</b>								
Balsam Lake								1566
Darlington	52681	122895	118860	108748	1064	8111	13863	13700
Emily	102452	124360	169503	148443	10385	13986	19516	13617
Mark S. Burnham	23900	29009	19011	19371				
Presqu'île	299745	301487	311749	286695	29240	37307	41175	29974
Serpent Mounds	73963	104569	108848	103920	12125	15483	15999	11632
<b>PEMBROKE</b>								
Algonquin	513568	466983	580392	470661	68823	77676	100841	71771
Carson Lake	4161	3107	6018	5146	4161	3578	5411	3434
Driftwood	10720	14791	15297	12671	6329	7317	8816	6567
<b>TWEED</b>								
Black Lake	32157	42727	51598	57238	8535	8537	10488	7535
Bon Echo		39314	84610	98547		8922	18714	14705
Lake St. Peter	22173	29372	21253	38014	4778	4902	5768	3356
Mazinaw	8967				3651			
Outlet Beach	160640	209112	281346	299665	14478	15504	26929	16885
Sandbanks			23197	14394				



Table No. 2 (Cont'd.)

## RECORD OF PARK USE

Administrative District And Park Name	1960	Total 1961	Visitors 1962	1963	1960	Total 1961	Campers 1962	1963
NORTH BAY								
Antoine	32951	22346	12872	16989	4480	2365	2051	1585
Finlayson Point	27584	40002	31426	47474	7992	7754	8649	6287
Marten River	59059	63225	71473	109823	11339	14024	17142	12118
Samuel de Champlain		18102	40406	49675		4897	8436	7913
PARRY SOUND								
Grundy Lake	71541	93303	157746	144074	13585	21898	31596	22699
Killbear Point	43168	105675	157279	215561	7712	18718	29543	21228
Mikisew	20460	42904	37239	65105	7299	8421	10206	6968
Oastler Lake	145061	120057	132342	139931	16455	14956	19686	13290
Restoule			9937	15035			4073	3122
Sturgeon Bay	27382	23751	23502	30195	6408	8377	7290	5562
CHAPLEAU								
Five Mile Lake		3713	7359	11704		926	2758	2366
GOGAMA								
Ivanhoe Lake	1337	2683	4038	16102	472	998	3592	3511
SAULT STE. MARIE								
Lake Superior	16086	46508	69296	103359	3246	31170	30406	30663
Pancake Bay	31489	69581	75737	70035	5543	26527	29128	22332
SUDBURY								
Chutes			1192	16281			1179	7927
Fairbank Lake	33826	28384	38966	54546	7873	12290	13515	11778
Killarney				3415				425
Windy Lake	84414	55696	82726	122612	3747	4222	4249	3772
WHITE RIVER								
White Lake			41275	70511			29881	24004
COCHRANE								
Greenwater		6222	9961	15844		1266	1808	1030
Kettle Lakes	69716	50544	66223	65311	3632	3370	4448	3752
KAPUSKASING								
Nagagamisis		14026	13539	20959		1962	2412	2478
Remi Lake	34871	25773	29452	25587	3128	3387	4036	3192
SWASTIKA								
Esker Lakes	23367	21072	26489	26211	3225	3312	4139	3498
Kap-Kig-Iwan	24135	30258	34116	25388	3079	2319	3303	2954
GERALDTON								
Blacksand		14139	12085	24659	1447	8211	8789	6481
Klotz Lake				11310	3391	2362	2367	1841
Macleod	51953	16420	41706	73862	3060	3891	4836	3330
Neys				30080				8683
Rainbow Falls		45815	85497	85515	1203	28960	30150	25419
PORT ARTHUR								
Inwood	9333	10208	13727	21634	2772	6847	9542	12064
Kakabeka Falls	162703	279622	305585	371373	6805	16102	20637	21557
Middle Falls	52958	55529	53570	52751	4563	9888	9039	8204
Shuniah	43589	52461			3860	10978		
Sibley	33253	45070	31644	47650	4493	13836	13664	12718
FORT FRANCES								
Caliper Lake	27291	21832	30631	41358	5715	6254	6582	7177
Lake of the Woods	16562	14665	10842	15759	300	655	1007	1210
Quetico	56590	66531	37056	84357	3720	5749	5958	4448
KENORA								
Aaron	23494	26173	33310	46972	4052	7681	7206	9359
Blue Lake	20186	24099	33376	31867	5034	6317	8937	6496
Rushing River	74643	59980	48689	67021	12249	14637	13511	10650
Sioux Narrows	31005	24676	36016	36620	6139	6284	5487	4039
SIOUX LOOKOUT								
Ojibway				6038			1157	988
Pakwash				6917			1074	1111
PROVINCIAL								
TOTALS	5692578	6215370	7820994	8526443	592103	862559	1063127	840491

Table No. 3 (a)

PROVINCIAL PARKS IMPROVEMENTS (BUILDINGS)  
(as of March 31, 1964)

DISTRICT PARK	Park Offices	Entrance Control Booths	Camp- ground Offices	Resi- dences	Summer Staff Living Quarters	Main- tenance Buildings	Concession Buildings	Change Houses	Comfort Stations	Earth Pit Toilets	Picnic Shelters	Museums
CHAPLEAU												
Five Miles Lake .....	1				1			2		32	1	
COCHRANE												
Greenwater .....	1					1		2		14		
Kettle Lakes .....	1					1	1	4		37	1	
FORT FRANCES												
Caliper Lake .....	1			1		1		2	1	9	1	
Lake of the Woods .....		1		1		1		4		12		
Quetico .....	1	1	1	1	1		1	2	2	12	1	1
GERALDTON												
Blacksand .....	1							2		21		
Klotz Lake .....	1									8		
Macleod .....	1					1		2		20	1	
Ney's .....	1									12		
Rainbow Falls .....	1					1		2		30		
GOGAMA												
Ivanhoe Lake .....	1					1		2		24		
KAPUSKASING												
Nagagamisis .....	1				1	1		2		34		
Remi Lake .....	1					1	1	2		28		

## KENORA

Aaron .....	1				2			20	1
Blue Lake .....	1				2			23	1
Rushing River .....	1				2		1	23	1
Sioux Narrows .....					2			12	1

## LAKE ERIE

Clay Creek .....	1							2	1
Holiday Beach .....	1							6	2
Ippewash .....	1							2	
John E. Pearce .....								11	
Long Point .....	1							71	
Pinery .....	1							4	
Port Bruce .....								6	
Rock Point .....	1							16	3
Rondeau .....	1							4	
St. Williams .....	1							41	1
Turkey Point .....	1								

## LAKE HURON

Craigleith .....	1								1
Inverhuron .....	1							37	1
Sauble Falls .....	1								1

## LAKE SIMCOE

Bass Lake .....	1							17	2
Devils Glen .....	1							5	
Earl Rowe .....								21	
Sibbald Point .....	1							64	8
Six Mile Lake .....	1							42	
Springwater .....	1							2	2
Wasaga Beach .....	1								1

## LINDSAY

Balsam Lake .....								10	
Darlington .....	1							42	3
Emily .....	1							30	2
Mark S. Burnham .....								4	1
Presqu'ile .....	1							38	2
Serpent Mounds .....	1							20	1

Table No. 3 (a)

# PROVINCIAL PARKS IMPROVEMENTS (BUILDINGS) (as of March 31, 1964)

DISTRICT PARK	Park Offices	Entrance Control Booths	Camp- ground Offices	Resi- dences	Summer Staff Living Quarters	Main- tenance Buildings	Concession Buildings	Change Houses	Comfort Stations	Earth Pit Toilets	Picnic Shelters	Museums
<b>KEMPTVILLE</b>												
Fitzroy .....	1	1	2			1		10	1	38	1	
Rideau River .....	1					1		4		24	1	
Silver Lake .....	1					1		4	1	20	1	
South Nation .....	1									6		
<b>NORTH BAY</b>												
Antoine .....		2				1				16		
Finlayson Point .....		1			3			2	1	17		
Marten River .....	1	1	1		1	1		2	2	66		
Samuel de Champlain .....	1	1		1	1			6		40		
<b>PARRY SOUND</b>												
Grundy Lake .....	1		1			1		2		102	1	
Killbear Point .....	1		1	1		1		2		158		
Mikisew .....	1							2		28	1	
Oastler Lake .....	1							2	1	14	1	
Restoule .....								2		39		
Sturgeon Bay .....	1			1				2		16		
<b>PEMBROKE</b>												
Algonquin .....	3	8	8	10	22	1	3	4	8	176		2
Carson Lake .....			1		1			1		10		
Driftwood .....			1		1			1		18		
<b>PORT ARTHUR</b>												
Inwood .....					1	2				12		
Kakabeka Falls .....	1	1				4	1	4	2	6		
Middle Falls .....	1	1			1	1		2	1	4	1	
Sibley .....	1	2	1		3	1		2		38	1	1



## SAULT STE. MARIE

Lake Superior .....	1	4		5	2	10	96
Mississagi .....							4
Pancake Bay .....	1	1	2		1	4	66

## SIOUX LOOKOUT

Ojibway .....	1					2	14
Pakwash .....	1			1	1	2	16

## SUDBURY

Chutes .....	1						16
Fairbank Lake .....	1				1	3	22
Killarney .....	1						7
Windy Lake .....	1	1		1	1	3	30

## SWASTIKA

Esker Lakes .....	1				1	4	28
Kap-Kig-Iwan .....	1				1	2	26
							1

## TWEED

Black Lake .....	1					2	30
Bon Echo .....	1			4	1	2	65
Lake on the Mountain .....						1	
Lake St. Peter .....	1					2	16
Outlet Beach .....	1	1	1	4	1	12	39
Sandbanks .....	1		1			5	14

## WHITE RIVER

Obatanga .....	1					2	22
White Lake .....	1				1	2	44

## PROVINCIAL

TOTALS .....	68	47	26	36	72	58	29	250	101	2273	49	8
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Table No. 3 (b)

PROVINCIAL PARKS IMPROVEMENTS (GENERAL DEVELOPMENT)  
(as of March 31, 1964)

DISTRICT PARK	Swimming Beaches (Feet)	Park Roads Internal Access (Miles)	Park Roads (Miles)	Bridges	Camping No. of Units	Organized Group Camp Areas Capacity (Campers)	Overflow Camp Areas (Acres)	Picnic Areas Tables Acres	Parking Areas—Car Capacity	Wells	Water Pressure Systems	Docks	Boat Launching Ramps
CHAPLEAU Five Mile Lake	500	3½			87			4	245	6		2	1
COCHRANE Greenwater Kettle Lakes	600 4,000	5 14	A	4	20 95	1 50 50	10 5	15 35	165 670	5 14	1	2 7	2 3
FORT FRANCES Caliper Lake	330	1½			86			5	137	1	1	1	1
Lake of the Woods	1,500	6½			87			6	165	6		1	1
Quetico	805	4			115			5	105	3	1	2	1
GERALDTON Blacksand	5,250	5½		4	168	1	1	6	30	6			1
Klotz Lake		1¾			33			1	9	2		1	
Macleod Lake	4,240	2			54	1		5	75	7		3	2
Ney's	5,280	3½	B	¼	65				10	2			
Rainbow Falls	300	4½		1	175	1	4	5	12	9		1	2
GOGAMA Ivanhoe Lake	8,500	5¼			135	1		17½	20	6	1		4
KAPUSKASING Nagamamis	3,000	3¾			80		¼	40	240	5			1
Remi Lake	1,850	2¾		1	69			26	200	5		2	1
KEMPTVILLE Fitzroy	400	5	A	¼	253	1		20	200	12	1	2	1
Rideau River	1,050	3¼		1	191	2		22	333	6	2	2	
Silver Lake	650	2			197		1½	2½	127	6	2	2	1
South Nation		3			28		8		157	3			
KENORA Aaron	200	2½		1	60			7	90		2	1	1
Blue Lake	900	3			100	1	2	3	80		1	1	1
Rushing River	400	3		2	100		2	5	205	1	3	1	1
Sioux Narrows	150	1½			60			2	140	1	1		



Table No. 3 (c)

## PROVINCIAL PARKS IMPROVEMENTS (MISCELLANEOUS)

(as of March 31, 1964)

DISTRICT AND PARK	Nature Trails (Miles)	Walking and Hiking Trails (Miles)	Canoe Routes (Miles)	Outdoor Exhibit Centres	Amphi- Theatres	Skating Rinks	Toboggan Slides	Ski Hills With Tows	Ski Hills Without Tows	Hydro Lines (Miles)	Sewage Lagoons
COCHRANE											
Greenwater	1 1/2	5 3/4			1					1 1/4	
Kettle Lakes		4									
FORT FRANCES											
Caliper Lake	4		900		1					1 1/2	
Quetico										1 1/2	
GERALDTON											
Blacksand		7									
Rainbow Falls		2									
GOGAMA											
Ivanhoe Lake		1									
KAPUSKASING											
Remi Lake	1/2									1/2	
KEMPTVILLE											
Fitzroy										3/4	
Rideau River										1/2	
Silver Lake										1/4	
KENORA											
Aaron					1					1	
Blue Lake					1					1/4	
Rushing River	1 1/2				1					1	
Sioux Narrows										1/4	
LAKE ERIE											
Holiday Beach										1/4	
Ipperwash										1/2	
Long Point					1					1 1/4	
Pinery	1	2	3		1	1	5	1	1	12 1/4	
Rondeau	5	6			1					10 1/2	
Turkey Point										1 1/4	



# LAKE HURON

Craigleith	1	1	1	1/4
Inverhuron	1			2 1/2
Sauble Falls		4		3/4

# LAKE SIMCOE

Bass Lake				
Sibbald Point	1		1	1/2
Six Mile Lake			1	3 1/2
Springwater				1/4
				3/4

# LINDSAY

Darlington				3
Mark S. Burnham	1			2
Presqu'ile	3			
Serpent Mounds		1		

# NORTH BAY

Antoine			1	
Finlayson Point			1	1/4
Marten River			1	1/4
Samuel de Champlain	2	1	1	1/4

# PARRY SOUND

Grundy Lake	1 1/2	3	1	1 3/4
Killbear Point		1/4		3/4
Mikisew				1/4
Oastler Lake		2		1/4
Restoule				

# PEMBROKE

Algonquin	7	27	2	1
Carson Lake		800		1
Driftwood				

# PORT ARTHUR ,

Kakabeka Falls	3 1/2		1	5
Middle Falls				
Sibley	6 1/2	7	1	1/4

Table No. 3 (c)

PROVINCIAL PARKS IMPROVEMENTS (MISCELLANEOUS)  
(as of March 31, 1964)

DISTRICT AND PARK	Nature Trails (Miles)	Walking and Hiking Trails (Miles)	Canoe Routes (Miles)	Outdoor Exhibit Centres	Amphi- Theatres	Skating Rinks	Tohoggan Slides	Ski Hills With Tows	Ski Hills Without Tows	Hydro Lines (Miles)	Sewage Lagoons
SAULT STE. MARIE											
Lake Superior	4				1					5 $\frac{3}{4}$	
Pancake Bay					1						
SUDBURY											
Fairbank Lake		1 $\frac{1}{2}$			1						
Killarney		7			1					2	
Windy Lake											
SWASTIKA											
Esker Lakes		5	8	1	1		2			1 $\frac{1}{4}$	
Kap-Kig-Iwan	1 $\frac{1}{2}$	3		1	1						
TWEED											
Black Lake					1					1 $\frac{1}{4}$	
Bon Echo										1 $\frac{1}{2}$	
Lake on the Mountain		2								1 $\frac{1}{4}$	
Lake St. Peter	2									1 $\frac{1}{4}$	
Outlet Beach					1					2	
Sandbanks										1 $\frac{1}{4}$	
WHITE RIVER											
Obatanga			1		1						
White Lake											
TOTALS	40 $\frac{3}{4}$	92	1719	7	28	5	12	1	1	60	2

# PARKS MISCELLANEOUS REVENUE In Year Ending March 31, 1964

District	Park	Daily Vehicle Permits	Annual Vehicle Permits	Campsite Permits	Miscellaneous	Total
Lake Erie	Clay Creek	497.50	912.00	947.00	30.50	2,387.00
	Holiday Beach	7,424.50	4,467.00	1,499.00	15.17	13,405.67
	Ipperwash	4,903.50	7,782.00	22,311.00	640.50	35,637.00
	Long Point	3,921.50	8,175.00	16,314.50	30.09	28,441.09
	Pinery	11,343.00	22,743.00	45,262.00	.65	79,348.65
	Rock Point	696.50	1,032.00	1,258.00		2,986.50
	Rondeau	16,104.50	22,920.00	26,663.25	478.00	66,165.75
	St. Williams	787.00	420.00			1,207.00
	Turkey Point	598.50	3,192.00	6,291.00		10,081.50
	Five Mile Lake	277.50	507.00	1,760.00		2,544.50
Chapleau	Greenwater	419.00	435.00	884.00		1,738.00
Cochrane	Kettle Lakes	1,759.00	2,976.00	2,370.00		7,105.00
Fort Frances	Caliper Lake	1,179.00	1,458.00	3,692.00	9.20	6,338.20
	Lake of the Woods	676.00	672.00	691.00		2,039.00
	Quetico	866.00	3,045.00	4,322.00	14,555.00	22,788.00
Geraldton	Blacksand	576.00	702.00	3,646.00		4,924.00
	Klotz Lake	68.50	198.00	1,111.00		1,377.50
	MacLeod	396.50	1,917.00	2,539.00		4,852.50
	Neys	1,025.00	423.00	2,563.00		4,011.00
	Rainbow Falls	3,434.00	1,689.00	8,056.00	13.48	13,192.48
Gogama	Ivanhoe Lake	465.50	912.00	3,081.00		4,458.50
Lake Huron	Craigleith	1,500.00	4,224.00	8,362.50		14,086.50
	Inverhuron	2,130.00	6,879.00	14,022.00		23,031.00
	Sauble Falls	2,002.00	4,401.00	9,140.00	3.30	15,546.30
Kapuskasing	Nagagamisis	198.00	870.00	3,147.00		4,215.00
	Remi Lake	842.00	1,983.00	1,891.00		4,716.00
Kemptville	Fitzroy	1,349.50	2,343.00	3,456.00		7,148.50
	Rideau River	4,444.00	7,779.00	8,800.00	35.03	21,058.03
	Silver Lake	1,463.00	4,461.00	10,798.00		16,722.00
	South Nation	1,852.50	1,200.00	2,352.00		5,404.50

Table No. 4 (Cont'd.)

PARKS MISCELLANEOUS REVENUE  
In Year Ending March 31, 1964

District	Park	Daily Vehicle Permits	Annual Vehicle Permits	Campsite Permits	Miscellaneous	Total
Kenora	Aaron	1,128.00	1,482.00	3,048.00		5,658.00
	Blue Lake	833.50	1,764.00	4,920.00		7,517.50
	Rushing River	2,624.00	2,268.00	7,465.00		12,357.00
	Sioux Narrows	653.00	900.00	2,801.00		4,354.00
Lindsay	Balsam Lake	86.50	330.00	919.00		1,335.50
	Darlington	4,436.50	7,533.00	5,438.00	97.31	17,504.81
	Emily	2,561.50	7,671.00	10,189.00	10.80	20,432.30
	Presqu'ile	6,425.00	13,668.00	18,270.00	49.19	38,412.19
	Serpent Mounds	2,242.00	5,292.00	8,078.00		15,612.00
Lake Simcoe	Bass Lake	2,526.50	8,016.00	10,985.00	136.08	21,663.58
	Devils Glen	809.00	1,983.00	1,166.00		3,958.00
	Earl Rowe	1,221.50	3,357.00	3,039.00		7,617.50
	Sibbald Point	11,945.50	18,321.00	25,780.00	232.43	56,278.93
	Six Mile Lake	1,585.50	4,989.00	7,930.00		14,504.50
	Springwater	5,854.50	6,540.00			12,394.50
	Wasaga Beach	18,976.50	13,284.00		274.00	32,534.50
North Bay	Antoine	239.50	360.00	918.00		1,517.50
	Finlayson Point	509.00	2,133.00	6,550.00		9,192.00
	Marten River	1,104.00	3,693.00	10,896.00	10.95	15,703.95
	Samuel de Champlain	1,364.50	2,013.00	4,229.00	1.00	7,607.50
Parry Sound	Grundy Lake	1,860.50	5,403.00	18,669.00		25,932.50
	Killbear Point	1,046.50	6,105.00	23,974.00	44.15	31,169.65
	Mikisew	489.00	2,304.00	6,405.00	14.01	9,212.01
	Oastler Lake	1,640.50	4,545.00	9,327.00		15,512.50
	Restoule	110.50	780.00	3,424.00		4,314.50
	Sturgeon Bay	519.00	1,692.00	5,052.00		7,263.00



Pembroke	Algonquin Carson Lake Driftwood	22,121.00 153.50 724.50	33,891.00 795.00 1,398.00	63,419.00 2,648.00 4,342.00	41.60	119,472.60 3,596.50 6,464.50
Port Arthur	District Office Inwood Kakabeka Falls Middle Falls Sibley	1,280.50 16,459.50 1,675.50 2,289.00	78.00 806.00 9,669.00 1,902.00 2,703.00	3,501.00 7,847.00 2,290.00 6,222.00	18.70 262.50	78.00 5,587.50 33,994.20 5,867.50 11,476.50
Sault Ste. Marie	District Office Lake Superior Pancake Bay	2,561.00 2,400.00	21.00 3,891.00 3,894.00	11,933.00 10,519.00		21.00 18,385.00 16,813.00
Sioux Lookout	Ojibway Pakwash	192.50 264.50	285.00 381.00	959.00 1,268.00		1,436.50 1,913.50
Sudbury	Chutes Fairbank Lake Killarney Windy Lake	689.00 1,385.00 196.50 2,019.00	888.00 2,115.00 163.00 2,813.00	2,283.00 4,969.00 429.00 2,715.00	.15	3,860.00 8,469.00 788.50 7,547.15
Swastika	Esker Lakes Kap-Kig-Iwan	567.50 719.00	1,356.00 999.00	2,767.00 1,239.00		4,690.50 2,957.00
Tweed	Black Lake Bon Echo Lake St. Peter Outlet Beach Sandbanks	699.50 1,542.50 268.50 6,545.00 147.50	2,448.00 5,184.00 1,362.00 13,932.00 264.00	6,156.00 15,307.00 3,206.00 17,591.00	223.42	9,303.50 22,033.50 4,836.50 38,291.42 411.50
White River	White Lake	2,543.00	2,307.00	11,079.00	41.66	15,970.66
Head Office			60.50			60.50
Sub-Total		213,435.00	340,748.50	599,390.25	17,268.87	1,170,842.62
Park Concessions TOTAL		213,435.00	340,748.50	599,390.25	17,268.87	84,125.23 1,284,967.85

Table No. 4(a)

The Miscellaneous Column of Table No. 4 includes revenue from the following sources:—

1. Boat Permits (Quetico) .....	\$ 9,880.00
2. Guide Licenses (Quetico) .....	4,425.00
3. Boat Parking (Quetico) .....	250.00
4. Sale of Wood .....	1,149.00
5. Sale of Ice .....	262.50
6. Sale of Buildings .....	229.00
7. Deposit Bag Refunds .....	80.80
8. Sale of Hydro .....	522.09
9. Pay Telephone Commission .....	239.53
10. Sale of Sanitary Supplies .....	53.45
11. Court Awards .....	25.00
12. Pump Cylinder Refund .....	41.66
13. Federal Refund .....	41.60
14. Other .....	69.24
<b>TOTAL</b> .....	<b>\$17,268.87</b>

Table No. 5

### SUMMARY OF ATTENDANCE FOR INTERPRETIVE AND NATURALIST PROGRAMMES (Year Ending March 31, 1964)

<b>Algonquin Provincial Park</b>		<b>Attendance</b>
Museum Attendance (estimated)	137 days	170,000
Pioneer Logging Exhibit (estimated)	102 days	68,732
Conducted Trips	55 trips	4,707
Labelled Trail Registration	5 trails	44,452
Evening Programmes of Lectures	17 lectures	2,973
Outdoor Amphitheatre Programmes	35 programmes	14,322
Special Groups	51	3,977
	<b>Total</b>	<b>309,163</b>
<b>Rondeau Provincial Park</b>		
Museum Registration	84 days	30,529
Conducted Trips	69 trips	1,415
Outdoor Amphitheatre Programmes	15 programmes	2,425
Special Group Lectures	5 lectures	275
	<b>Total</b>	<b>34,644</b>
<b>Sibley Provincial Park</b>		
Museum Attendance (estimated)	77 days	30,498
Conducted Trips	45 trips	778
Labelled Trail Registration	3 trails	1,000
Outdoor Amphitheatre Programmes	17 programmes	4,590
	<b>Total</b>	<b>36,866</b>

Table No. 5 (cont'd)

## SUMMARY OF ATTENDANCE FOR INTERPRETIVE AND NATURALIST PROGRAMMES (Year Ending March 31, 1964)

<b>Quetico Provincial Park</b>		<b>Attendance</b>
Museum Registration	78 days	8,234
Conducted Trips	15 trips	268
Labelled Trail Registration	3 trails	678
Outdoor Amphitheatre Programmes	15 programmes	1,896
Total		11,076
<b>Presqu'île Provincial Park</b>		
Museum Registration	77 days	19,869
Conducted Trips	32 trips	1,392
Labelled Trail Registration	2 trails	3,167
Outdoor Amphitheatre Programmes	25 programmes	7,200
Special Groups	2	140
Total		31,768
<b>Pinery Provincial Park</b>		
Conducted Trips	70 trips	2,046
Outdoor Amphitheatre Programmes	19 programmes	10,485
Labelled Trail Registration	1 trail	1,600
Total		14,131
<b>Sibbald Point Provincial Park</b>		
Museum Registration	81 days	22,244
<b>Wasaga Beach Provincial Park</b>		
Nancy Island Museum Registration	83 days	21,169
<b>Lake Superior Provincial Park</b>		
Conducted Trips	17 trips	343
Outdoor Amphitheatre Programmes	13 programmes	2,840
Special Group	1	20
Total		3,203
<b>Inverhuron Provincial Park</b>		
Labelled Trail Attendance (estimated)	1 trail	8,500
<b>Remi Lake Provincial Park</b>		
Labelled Trail Registration	1 trail	no record
<b>Kap-Kig-Iwan Provincial Park</b>		
Labelled Trail Attendance (estimated)	1 trail	2,250

TABLE NO. 5 (b)

PROVINCIAL PARKS IMPROVEMENTS (GENERAL DEVELOPMENT)  
(as of March 31, 1964)

DISTRICT PARK	Swimming Beaches (Feet)	Park Roads Internal Access (Miles)	Bridges	Camping Units	Organized Group Camp Areas No. of Areas	Overflow Camp Areas (Acres)	Picnic Areas Acres	Parking Areas—Car Capacity	Wells	Water Pressure Systems	Docks	Boat Launching Ramps
<b>NORTH BAY</b>												
Antoine		1		29			13	48		5		1
Finlayson Point	216	4½		114			4½	41	7	1	1	1
Marten River	1,000	11	1	237	1		6	354	10	4	2	4
Samuel de Champlain	1,000	11		149	1	60	15	551	14	1		5
<b>PARRY SOUND</b>												
Grundy Lake	1,650	20	B	485	3	90	6	340	17	5	5	5
Kilbear Point	14,000	22	A	722	3	90	30	222	20	4	5	3
Mikisew	1,500	3	B	123			10	60	7	2	2	1
Oastler Lake	600	1¼		120			2	60	1	2	2	1
Restoule	4,000	6¼	B	258			12	33	6	2	2	2
Sturgeon Bay	150	1		87			¼	20	2	2	2	1
<b>PEMBROKE</b>												
Algonquin	3,500	125		1,298	2	550	7	525	40	5	28	3
Carson Lake	300	1		44			1	30	1	1		1
Driftwood	3,000	3		82			1	30	7	1		1
<b>PORT ARTHUR</b>												
Inwood	50	1		62			2	31				
Kakabeka Falls	1,800	4	1	104	1	50	32	331		1		
Middle Falls		1		30	1	50	6	126	2	1		
Sibley	2,000	42	2	350	2	100	25	255	14		2	2
<b>SAULT STE. MARIE</b>												
Lake Superior	12,800	11¾	4	316			53½	186	9	1	1	
Mississagi		¼	B				8¾	400	1			
Pancake Bay	10,800	5¼	7	288	1	30	8¼			1		



# STOIX LOOKOUT

Ojibway 300 5 58 2 40 2 32 48 1 1 2 1  
Pakwash 3,500 1½ 57 1 20 2 19 40 2 2 2 1

## SUDBURY

Chutes 500 1½ 97 2 30 3 19 2 2 8 10 1  
Fairbank Lake 1,100 2 A 6½ 1 30 2 261 200 8 1 1  
Killarney 600 1 25 2 2 1 40 1 1 1 1  
Windy Lake 5,000 2½ 76 1 40 1 423 450 10 2 2

## SWASTIKA

Esker Lakes 1,200 3 B 12½ 2 100 4 160 400 10 1 5 1  
Kap-Kig-Iwan 2½ A 1½ 1 100 4 256 300 5 2 2

## TWEED

Black Lake 500 3 200 8 200 14 124 150 4 2 4 3  
Bon Echo 2,100 6¼ 400 8 200 35 611 220 7 3 3  
Lake on the Mountain 1,000 1¾ B 1 60 4 25 40 1 1 2 2  
Lake St. Peter 10,000 7 A 2¾ 1 265 4 80 90 6 2 4 4  
Outlet Beach 12,000 2 1,162 200 2,000 16 7 4  
Sandbanks 2 85 120 2 1 1

## WHITE RIVER

Obatanga 1,000 2 B 1 60 1 10 50 5 1 1  
White Lake 3,400 7¼ B 3 270 1 75 200 14 2 2

## PROVINCIAL

TOTALS 236,611 563 52 55 14,458 92 4,956 234% 1,855% 25,405 41,934 613 187 151 99

Table No. 6

## INTERPRETIVE PROGRAMMES

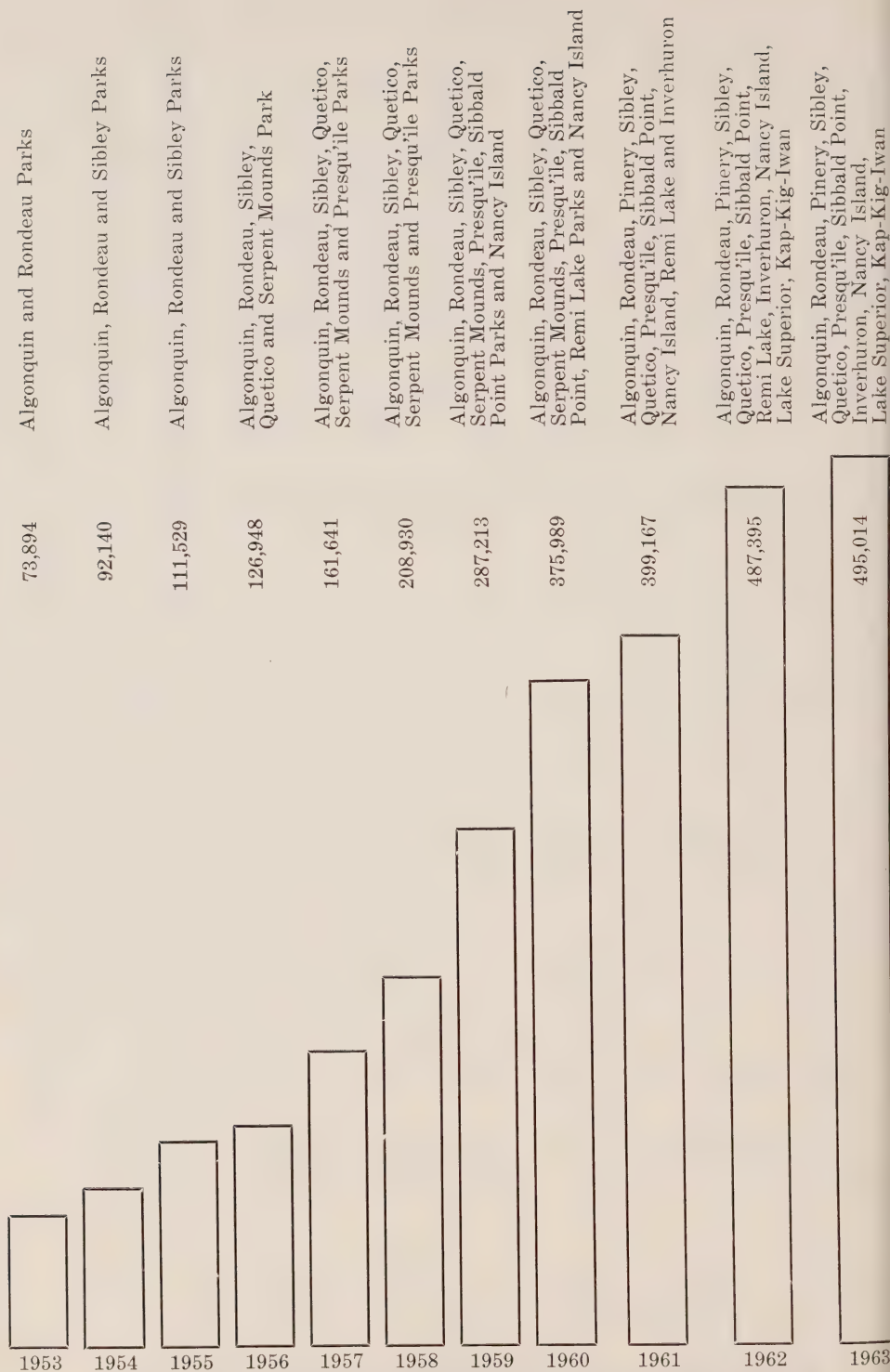


Diagram showing the increase in Interpretive Programme Attendance of Museums, Labelled Trails, Conducted Trips and Lectures

Table No. 7

YEARLY ATTENDANCE OF PROVINCIAL PARK MUSEUMS  
LABELLED TRAILS, CONDUCTED TRIPS AND LECTURES

	1947	1948	1949	1950	1951	1952	1953	1954	1955
Algonquin Park	6772	7885	1480	7766	8065	17496	71046	93410	99917
Rondeau Park	903					814	2822	6953	7104
Sibley Park								2474	4525
Quetico Park									
Serpent Mounds Park									
Presqu'île Park									
Sibbald Point Park									
Nancy Island (Wasaga Beach Park)									
Remi Lake Park									
Inverhuron Park									
Pinery Park									
Lake Superior Park									
Kap-Kig-Iwan									
	7675	7885	1480	7766	8065	18310	73868	102837	111546
		1956	1957	1958	1959	1960	1961	1962	1963
	106946	126946	156570	196386	264357	268310	313133	309163	
	8527	13843	25780	34245	31537	30306	33038	34644	
	5434	5862	9504	11431	10500	18907	31903	36866	
	531	4360	5663	6247	10639	10425	10223	11076	
	5661	7986	8100	5454	3675				
		2689	3313	12154	23552	28332	36458	31768	
				12123	21571	23421	21516	22244	
				9173	9998	13652	21657	21169	
					160	96	84		
						1600	7000	8500	
						4118	8231	14131	
							2652	3203	
							1500	2250	
	127099	161686	208930	287213	375989	399167	487395	495014	





Students receive practical class room instruction in scaling at Ontario Forest Ranger School, Dorset.



These Junior Rangers are busy clearing brush at entrance to Restoule Provincial Park, Parry Sound District.



## PERSONNEL BRANCH

### POSITION ADMINISTRATION

THE classification program continued including the identification, analysis of positions, writing of specifications and the determining of salary schedules. Further development took place in "second phase" work including position specification writing and classification of positions in the Forest Ranger, Conservation Officer, Forest Protection Supervisor, Reforestation Aid, Reforestation Technician, Reforestation Foreman, Hatchery Assistant and Fisheries Assistant series. These positions to be reclassified into new series which are being established.

This program required a number of visits to the field in order to advise and assist in the preparation of position specifications and organization charts. Emphasis was placed on a comparative study of jobs in various locations to assure uniformity of treatment in classification.

### RECRUITMENT

The recruitment program continued and appointments were made to fill vacancies at various levels resulting from retirements, superannuations, resignations, deaths, dismissals and addition of new positions.

A large number of enquiries concerning employment with the Department was dealt with by this section.

### JUNIOR FOREST RANGER PROGRAM

Expansion of the program during this period was approved and 1,300 17-year-old students were appointed to 64 camps in Northern Ontario. These camps were operated by 16 districts during the period from July 1st to August 24th. The cost to operate the program this year was \$662,447, which included wages, travel, maintenance and provisions.

### TRANSFERS AND PROMOTIONS

Job advertising continued to be used in the selection of personnel to fill vacancies occurring in nine classifications and was used on several other occasions

when requested by field or branch supervisors. Employees are informed of the selection as well as the number of applications. During the year, there were 97 transfers within the Department.

## TRAINING

The policy of recruiting technical field staff on completion of training at the Ontario Forest Ranger School or similar institutions continued and almost all staff eligible for sponsorship to the Diploma Course have received or are receiving such training.

In 1963 the graduating class consisted of 42 sponsored students and 61 students who paid their own way. The enrolment for the 1964 Diploma Course is 34 sponsored and 87 non-sponsored.

In addition to the Diploma Course, Certificate Courses were given in Fish and Wildlife, Forest Protection and Timber work. These courses will continue and it is planned to add a Certificate Course in Parks work.

A number of employees attended a course in oral and written communication, sponsored by the Ontario Agricultural College Extension Branch and a similar, but shorter, course was arranged for conservation officers attending the Certificate Course in Fish and Wildlife at the Ontario Forest Ranger School.

Three foresters and two biologists registered for the Diploma Course in Resource Management at the University of Toronto. To date, 15 foresters and biologists have received this training.

Familiarization courses were held for 32 new foresters and biologists and, for the first time, 32 chief rangers were brought to Head Office to take this course.

Eleven employees were granted educational leave—10 to take post-graduate and 1 to take graduate training.

Eight Head Office employees successfully completed the Certificate Course in Public Administration at the University of Toronto, sponsored by the Civil Service Commission and five employees completed the Public Administration Course given at Ryerson Technical Institute.

One forester was loaned to the Government of Chile under the auspices of F.A.O. to work on a forest inventory programme; another forester was loaned to the Government of Kenya and a biologist to the Government of Tanganyika under the Federal External Aid Programme.

The Training and Development Plan for the Department was completed and approved.

## SAFETY TRAINING

The Injury Frequency Rate was 19.2, an increase of 5.0 over the previous year.

The Injury Frequency Rate is determined as follows:

$$\frac{\text{No. of lost time injuries} \times 100,000 \text{ man-days}}{\text{man-days worked}}$$

On April 3, 1963 the "waiting" time for a lost time claim was reduced from five to three days under the amendments made to the Workmen's Compensation Act. This increased the number of compensable lost time claims and caused the Injury Frequency Rate to rise.

Lake Huron District had the lowest injury frequency rate and won the Department Safety Award.

A second Accident Control Officer was appointed to the North-Central Section. This brings the total number of accident control officers in the Department to four.

WORKMEN'S COMPENSATION

There were 773 compensable claims, an increase of 173 over last year. The severity of injuries was not as great which resulted in fewer high cost claims.

	Cost per claim	Total Cost
1963-64	\$102.41	\$152,912.80
1962-63	\$157.41	\$171,802.00

The average number of employees was approximately 300 greater than the previous year. There were two deaths resulting from accidents and five new pensions were awarded for permanent disabilities.

On July 1, 1963, pensions for dependent children were increased by \$15.00 per month.

TOTAL STAFF AS OF MARCH 31, 1963

	Reg.	Prob.	Monthly Rated	Casual	Total
Head Office	611	79	10	25	725
Field	1726	128	26	625	2505
	2337	207	36	650	3230
Total complement of year-round positions as of March 31, 1964					2644
Total Regular, Probationary and Monthly Rated staff as of March 31, 1964					2580
Total vacancies in complement as of March 31, 1964					64
					2644

NUMBER OF PROFESSIONAL EMPLOYEES

Foresters	Biologists	Civil Engineers	Miscellaneous	Total
220	70	7	33	330
Number of licenced scalers on staff				770
Number of graduates of Ranger School on staff				741

STAFF ATTENDANCE SUMMARY

The table below indicates the total number of employees on staff for each month of the fiscal year:

HEAD OFFICE						FIELD SERVICE					
1963	Reg.	Prob.	Mthly Rated	Cas.	H.O. Total	Reg.	Prob.	Mthly Rated	Cas.	F.S. Total	Grand Total
Apr.	610	84	16	19	729	1747	100	24	2187	4058	4787
May	604	85	12	27	728	1743	98	24	5410	7275	8003
June	605	82	11	58	756	1751	89	31	5411	7282	8038
July	598	86	11	63	758	1744	97	24	6047	7912	8670
Aug.	608	85	11	53	757	1735	105	26	4031	5897	6654
Sept.	613	78	9	34	734	1743	102	25	3155	5025	5759
Oct.	613	72	10	22	717	1738	97	25	2710	4570	5287
Nov.	617	81	9	19	726	1747	93	27	1425	3292	4018
Dec.	618	85	2	27	732	1724	99	26	1024	2873	3605
1964											
Jan.	609	82	10	23	724	1718	123	24	849	2714	3438
Feb.	616	83	10	30	739	1724	129	24	764	2641	3380
Mar.	611	79	10	25	725	1726	128	26	625	2505	3230
Aver.	610	82	10	33	735	1737	105	26	2803	4670	5406





Hard working students at Ontario Forest Ranger School, Dorset.



### STAFF TURNOVER

The table shown below lists the number of employees who discontinued their services for various reasons, as indicated, during the fiscal year:

	Resigned	Dismissed	Retired	Died	Super-annuated	Transferred	Total
Head Office	37	1	2	2	10	8	60
Field	54	7	10	13	35	4	123
Total	91	8	12	15	45	12	183

### NEW EMPLOYEES

	Male	Female	Total
Head Office	49	23	72
Field	102	27	129
Total	151	50	201

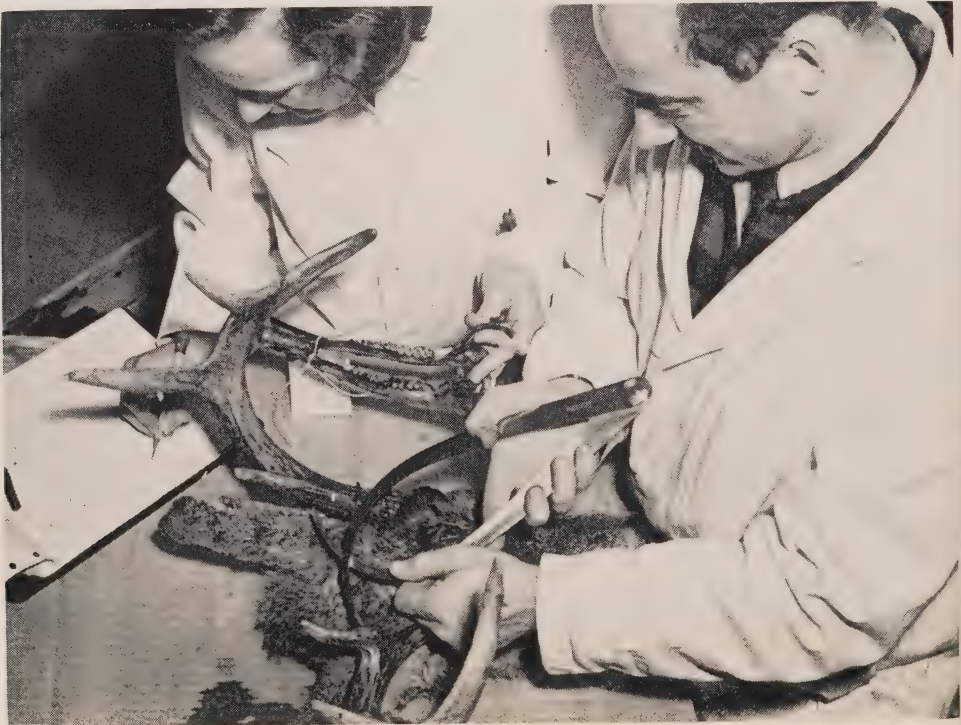
Note: The staff turnover for the fiscal year is — 7.2%.  
This is the ratio of separations to total regular and probationary staff.

### TOTAL PERSONNEL ON STAFF

	Reg.	Prob.	Casual
March 31, 1964	2337	207	650
March 31, 1963	2368	181	701
	31 decrease	26 increase	51 decrease



A beaver is measured by two Lands and Forests research workers.



Department research workers determining age of deer by antlers and lower jaw.

## RESEARCH BRANCH

THE Research Branch continues to operate in the fields of Fisheries, Forestry, Wildlife and Mechanical research. The Forestry field is divided under silvicultural research and mensuration. The main objective of the Branch is the provision of information for the operating branches for their current needs as well as to carry on basic work to give the information necessary to remedy deficiencies of the past and to provide for possible requirements in the future.

In fisheries research, a broad line of research is being pursued but, in particular, the development of the hybrid trout, or splake, is proceeding both to fill the gaps left by the sea lamprey destruction of lake trout in the Great Lakes and also as a game fish in its own right. Another fish, the Kokanee, a land-locked salmon of British Columbia, which has shown some signs of success in Ontario waters, is being sought for larger scale introduction.

In the field of forestry, the agreements with the Federal Department were redrafted so that one committee replaced the two formerly needed to cover the fields of silviculture, entomology and pathology, and two meetings of the new committee were held during the year.

The development of seedlings started in plastic tubes for regeneration as an adjunct to ordinary seedling stock holds out considerable promise for the future and the development of this process has been almost perfected by research. The cost should be low enough so that the tube method should enable the planting of several times that of the conventional method for the same expenditure. This method is described under "Highlights".

In the wildlife field, the relationship between game animals, predation and other environmental conditions is adding to the efficiency of the management of these resources. Explorations in the north for caribou and polar bears have shown some interesting possibilities. The goose census now carried out annually is yielding important results in helping to regulate the "take" of these birds along their flyways in Canada and the U.S.

Mechanical research has shown how fire pump performance can be improved by a factor of several times by careful lubrication with improved oils.

Statistical research has demonstrated that computers can be used for the rapid production of volume tables based on formulae which are superior to those formerly used.

## WILDLIFE RESEARCH

Wildlife research in Ontario is concerned with the collection and application of knowledge about wild birds and mammals that are considered to be of economic value to the province. Research programs have been organized to study big game, predators, upland game and waterfowl, furbearers and the diseases and parasites of these.



# RESEARCH BRANCH

BRANCH CHIEF: R. N. JOHNSTON

ASSISTANT BRANCH CHIEF: A. P. LESLIE

## SPECIAL PROJECTS:

A. R. Fenwick

## FORESTRY SECTION:

D. H. Burton, Supervisor

Tree Breeding

Site

Regional Silviculture

Reforestation

Wood Quality

Mid-Western

Northern

Central

South Central

South Western

South Eastern

## FISHERIES SECTION:

K. H. Loftus, Supervisor

Great Lakes

Game Fish

Technical Studies  
(Maple Hdqtrs.)

Lake Huron

Lake Erie

Lake Ontario

Lake Trout

Brook Trout

Smallmouth Bass

Selective Breeding

Limnology

Parasitology

Age Determination

## WILDLIFE SECTION

R. O. Standfield, Supervisor

Big Game

Furbearers

Upland Game & Waterfowl

Predators

Diseases & Parasites

## MECHANICAL SECTION

M. H. Baker, Supervisor

## STATISTICS and MENSURATION SECTION

T. W. Dwight, Supervisor

## ADMINISTRATION

Personnel

Budgeting and Accounting

Reports

Library

Public Relations



Headquarters for the staff employed on the various projects is the Southern Research Station at Maple but most investigations are conducted in the field where populations of animals or their environment allow the best possible conditions for research. As a result, the distribution of research projects is widespread but, as in past years, a significant number of studies were carried out in the Wildlife Research Area of Algonquin Park. In this experimental area, almost complete control over human interference is possible and research does not interfere with trapping and hunting as it may in other parts of the province.

A number of research projects are done in co-operation with the field staff of the Fish and Wildlife Branch. In addition, co-operation arrangements with the Ontario Agricultural and Veterinary Colleges of Guelph University, the University of Toronto, the Ontario Research Foundation, the Indian Affairs Branch of the Department of Citizenship and Immigration and other organizations supplement the Department's research program and assist these organizations with their related research.

## Big Game

White-tailed deer, moose and woodland caribou are among the principal big game species in the province although the last, because of closed seasons, is not utilized by sportsmen. Caribou, however, form an important food source for natives in northern Ontario and are, therefore, included in the research program.

White-tailed deer, which are the primary big game animals in central Ontario, are at the northern extreme of their range in this part of the province and are greatly affected by changes in their environment, and particularly by severe winter weather conditions. Research on deer and the factors which are affecting them has produced methods for estimating the effects of winter weather on populations, and of predicting hunter success in subsequent years. Continuing studies of their requirements for food and shelter have shown that high population levels cannot be maintained as forests reach maturity and that manipulation of deer range, through logging, fire or other techniques, to provide a continuing supply of palatable shrubs and coniferous shelter is essential to good deer management. Pilot projects in southeastern Ontario and close liaison with the Fish and Wildlife and Timber Branches and other forestry agencies on stand improvement programs in central Ontario are continuing.

Moose research has been directed mainly to studies of methods for estimating populations, movements and the effects of hunting on productivity. For several years, Ontario has enjoyed high moose populations and every effort is being made to develop or improve census techniques to measure changes in numbers in anticipation that peak populations will not continue indefinitely. Analyses of the results of aerial photography as a census technique have been carried out with the assistance of the Timber Branch and the necessary characteristics of aerial cameras, films and flight patterns have been determined. Planning was completed for testing an air-borne infra-red detector for censusing big game and experiments are scheduled for the coming year. A detailed study of reproduction and productivity in moose herds of western Ontario was completed and publication of the results is in progress.

Woodland caribou research is conducted under the Resources Development Agreement with the Indian Affairs Branch of the Department of Citizenship and Immigration. The objectives of this research are to ascertain herd sizes, distributions and movements, estimate productivity and the carrying capacity of the range, and measure the effects of native hunting and predation; with a view to increasing their

numbers and eventually proposing caribou as a game animal for sportsmen. The collection of specimens and data on food habits, age and reproductive characteristics of herds and mortality due to predation and hunting are continuing. Population numbers, distributions and movements are now known for many of the main herds in the Patricia Districts and a report on these has been prepared for distribution to management officers.

## Predators

The objectives of predator management continues to be those of developing efficient control techniques and of moderating the extreme opinions of some segments of the public. The research program has progressed well toward the former but the latter remains a problem in some areas.

The Algonquin Park research program on timber wolves, which is the core of most predator research, is nearing completion. Results of aerial surveys throughout the winter showed that wolf populations in the Park had not increased since snaring was stopped in 1958 nor had there been an increased movement of wolves from the Park to adjacent areas. There were no indications of increased predation on deer, moose and beaver, which are the chief prey species in the Algonquin area.

Training of 13 predator control officers, principally from central and northern districts of the province, was conducted in Algonquin Park during the summer. Techniques of trapping and snaring were emphasized and equipment was supplied for control work in the various districts. The use of all kinds of poisons has been restricted and they are now under the control of the chief predator control officer, who is a member of the predator research group. During the fall and winter, 15 cases of predation on livestock and/or wildlife were reported from throughout the province. Action by predator control officers stopped predation in 11 cases; complaints ceased in the other four cases after a thorough investigation had been completed.

A progress report on predator research and management was prepared and given wide circulation throughout the province.

As part of the over-all predator research program, aerial surveys were made of polar bear populations along the coasts of Hudson and James Bays. The population in Ontario during late summer was estimated to be in excess of 70 animals and two well-defined areas of concentration were found; one near Cape Henrietta Maria, where James Bay and Hudson Bay meet, the other near the Ontario-Manitoba border. Recommendations for improved management of polar bears in Ontario are under consideration.

## Upland Game and Waterfowl

The need for greater hunting opportunities for small game animals in agricultural or semi-agricultural areas of Ontario is clearly recognized. Research on several species of birds and mammals is directed to this end.

Studies of the characteristics and habitat requirements of prairie grouse (sharp-tailed grouse, prairie chickens and their hybrids) on Manitoulin Island were continued. The information obtained from this research will be used in an attempt to extend the range of these species into southern and eastern Ontario. In this connection, mapping of potential prairie grouse range in eastern Ontario was begun and an experimental planting of sharp-tail grouse was made in the Carden area of Lindsay District in co-operation with the Fish and Wildlife Branch.

Research was started on ruffed grouse and analysis of the stomach contents

of grouse collected from several areas of the province showed the food requirements at different seasons of the year. As a supplement to the field research, studies of grouse nutrition were initiated in co-operation with the Ontario Veterinary College at Guelph. Planning was completed for experimental improvements, by forest clearing, fertilization and planting of preferred foods, in grouse range in an effort to improve productivity and hunter success.

Research was continued on a method for measuring productivity of Canada geese breeding in the Hudson Bay Lowlands. The results will be used to set more realistic autumn bag limits for hunters in the Mississippi Flyway. The success of this method, which uses low-level aerial photographs of young and adult geese, is very difficult to assess at the present time since large segments of the population in Ontario may be non-breeding birds. Work is continuing on the analyses of results in co-operation with the U.S. Fish and Wildlife Service and a member of the Illinois Natural History Survey. Biologists from Ontario co-operated with those from Manitoba and Quebec to extend this survey into the latter two provinces.

### Furbearers

It has long been recognized that instability in production of furs has had an adverse effect on the livelihood of trappers. Furbearer research in Ontario is directed toward an understanding of the factors which affect populations of beaver, otter and mink, among other furbearing animals, with the objective of moderating the fluctuations in numbers.

Research on beaver in the Patricia Districts of northern Ontario and on Michipicoten Island have shown that populations can reach very high densities often, as in northern Ontario, in the relatively short time of three or four years. These studies have also shown that excessive trapping pressure is required to deplete such populations. High beaver populations in central Ontario have not been affected by ordinary trapping pressure. We anticipate that factors, other than trapping, will eventually decimate these populations and continuing studies are assessing the importance of depleted food supplies, disease, predation and adverse weather. A technique for ageing beaver by their teeth development, which had its origin in the Research Branch, has now been perfected in co-operation with a member of the staff of the Nova Scotia Department of Lands and Forests.

### Wildlife Diseases and Parasites

The effects of most diseases and parasites of wildlife in Ontario are as yet not well known. Research on diseases and parasites is providing an understanding of their occurrences, distribution and importance as regulators of animal numbers and of their possible implications in domestic animal and human populations.

Included in the responsibilities of this research unit is a diagnostic service for field staffs who receive specimens and inquiries from the public. During the year, 116 specimens of birds and mammals were autopsied and the results reported to the Districts concerned. There was no evidence of any diseases or parasites (except rabies which has been present since 1954) reaching epizootic proportions in any wildlife species. Rabies in foxes and skunks continued at a relatively lower level throughout central and southern Ontario and research on the relationship between the incidence of rabies and the density of fox populations was continued. A single isolated case of tularemia was identified in a beaver from Gogama but there was no indication that beaver population in this area were threatened.

Studies of the frequency of occurrence, distribution and effects of kidney worm



in mink showed that the disease continues to affect about 42 per cent of the mink in Parry Sound District. The study was expanded in an effort to define the northern limits of its occurrence in central Ontario. Research on the effects of this parasite on the quality of mink pelts has to date failed to show any clear-cut relationship.

A manual of the common diseases and parasites of wildlife in Ontario was prepared for the use of field staffs and others concerned with wildlife management and utilization. It is now being processed and will be issued in the coming year.

## Miscellaneous

Development of radio transmitter tags for marking wildlife as a means of studying movements and habits was continued. Reliable transmitting and receiving systems are now aiding the research on red foxes and timber wolves.

## FISHERIES RESEARCH

### Great Lakes Fisheries

#### LAKE SUPERIOR

The terms of the Federal Provincial Agreement for Ontario Fisheries include Federal responsibility for the general research program on Lake Superior and for the sea lamprey control experiment. The Fisheries Research Board of Canada conducts both of these programs. Familiarity with the progress of their work is maintained by the Fisheries Section through minor participation in the programs and by membership on various committees which plan and review the research.

The sea lamprey control experiment on Lake Superior continued with the second round of treatment in all known lamprey producing streams, in an attempt to further reduce the lamprey population. An 80 per cent reduction of sea lamprey numbers was achieved in 1962, and maintained in the spring of 1963 following the first round of treatments. Second treatments are expected to be completed in 1964, and their effectiveness will be assessed in 1965. In the meantime, in anticipation of success, the lamprey producing streams of Lake Huron and of Lake Ontario are being surveyed in preparation for treatment, in subsequent years.

The general research program was concentrated on lake trout. The response of the trout to the reduction of sea lamprey numbers was encouraging, particularly in the central part of the lake where predation is now very light. Consideration is being given to increasing the lake trout quota to allow an extended but controlled harvest in this area. The research program also includes assessment of the success of the lake trout plantings which the Province makes as its contribution to the international lake trout rehabilitation program.

During 1963, one new research unit was added to study walleyes, another of the game species of major importance across the province. Recruitment of suitable staff to undertake this research was a long task, reflecting the increasing competition for scientists by other research agencies and by the ever more numerous universities. Since our scientific staff are fully qualified as university staff, we must expect to lose some of them to the attractive surroundings and salaries offered by these institutions. Plans for research on lake productivity, as a means of developing a water classification system for Ontario, have matured and now await only staff and funds.

Attendance at the Federal-Provincial Conference on Fisheries Development provided a unique opportunity to view the fisheries problems of other provinces.



## LAKE HURON

The several separate whitefish populations in Lake Huron, Georgian Bay, North Channel and South Bay were sampled as in the past. This sampling program and subsequent age determinations from the scales allows determination of the relative strengths of year classes of whitefish produced in the various areas, and is an essential part of our long-term search for the causes of fluctuations in abundance. The correlation between year class strength and the combined fall-spring temperature index discovered for Lake Ontario whitefish was tested against Lake Huron population fluctuations, but was found invalid. It is apparent that for Lake Huron whitefish, these factors are not limiting or at least some other factor, as yet not recognized, is also influencing year class success. The study will continue until the factors are identified and until we understand how they work.

Since much of our data and analysis is dependent upon precise age determination, and since this is such a difficult task, work designed to verify and to improve confidence in our ability to age fish from scale samples has been increased. Whitefish and other species are being injected with tetracycline hydrochloride to put a time mark on the scales. Injected fish are tagged for later recognition and released. Subsequent scale samples from these fish have a visible time reference point which helps greatly in the interpretation of age from the scale markings.

The year class composition of the South Bay smelt population is being studied to determine the effects of fishing pressure. For several years, during the 1950 decade, spawning runs of smelt were fished as hard as our facilities would allow. In recent years, there has been virtually no fishing, only sampling. A report covering the quite marked differences between the fished and unfished smelt year classes will be issued shortly and should contribute to our understanding of the effect of fishing on fish populations in general.

Studies of bass year class strength, of the survival of planted hybrids and of the overall fish population changes in South Bay and Georgian Bay were continued. Co-operative arrangements with the Great Lakes Institute resulted in progress on hydrographic studies in which we have interest.

## LAKE ERIE

All available data on walleyes were summarized and reported to the Department and to the Great Lakes Fishery Commission in 1963. These included an analysis of commercial catches and a partial documentation of fishing effort during the 1950 decade when the catches reached an all time high, then fluctuated violently and virtually collapsed. The available age composition and tagging study results were also included. These data were combined with similar U.S. data and with information on changes in water quality in other aspects of the environment, and an integrated report was issued. The controversy which developed concerning the management implications of the information emphasizes the need to expand the Lake Erie's research program to include long-term studies of this species.

Studies of smelt were continued. The seasonal distribution of this species throughout the lake is now better defined, as are the areas of concentration where most of the fishing effort is directed. No major concentrations, not already discovered by fishermen, were found. Work was begun on an attempt to determine whether or not there are distinct smelt populations in the lake or whether we can consider the smelt as being one large population. The wide variation in smelt spawning time between different areas of the lake shore suggest the possibility of separate populations. Food studies were directed particularly towards the discovery of cannibalism by yearling smelt, in an effort to explain the phenomenon of alter-

nate strong year classes. The weak year classes are, of course, felt by the industry, which is dependent almost entirely on each successive year class as it enters the fishery.

## LAKE ONTARIO

Concern for the future of the whitefish fishery increased during 1963 with a further shift of the fishing effort to the waters south and west of Prince Edward County. The rate of exploitation remains high even with the restriction placed on the fishery in the fall. No strong year classes are coming into the fishery at present. Furthermore, evidence is being accumulated that suggests the population presently being fished is distinct from the traditional Bay of Quinte population. If indeed the Bay of Quinte stock is separate, it is in poor condition because little fishing has been available there for three or four years.

The lake trout research program entered its final phase with the first of two large annual plantings of yearlings. Over 100,000 yearlings, flown from the Charlevoix hatchery in Michigan, were planted on Charity Shoal in early May. The transfer technique, using plastic bags containing oxygen, water and high proportion of fish was, in itself, a contribution to fish transport methods which may prove of considerable value where long distances are involved. The planted fish have survived and grown extremely well. It is hoped that enough trout from these two large plantings will survive to maturity to reproduce successfully. If they fail to do so, as has been the case with the much smaller numbers in earlier years, it is expected that we will, at least, learn the identity of the factor or factors which limit their survival. Two very interesting observations have already been made: (1) Fishermen considered the yearling trout more abundant during 1963 than in any former year they can remember, and (2) commercial whitefish gillnets of 4½-inch mesh catch large numbers of yearling trout accidentally.

In connection with the study of the impact of the St. Lawrence Seaway obstructions on the American eel population and industry, some 500 elvers arriving from the sea at the Saunders Generating Station were collected and brought to the Station for tagging and release. Subsequent recapture of these elvers should provide our first information on the length of time these fish spend in fresh water before maturing and returning to the sea.

The research vessel "NAMAYCUSH" was fitted for trawling during 1963 and good progress was made in learning how to handle the gear for smelt and alewives. This gear equips the unit for adequate sampling gear and for work in open Lake Ontario when staff and funds become available.

Urgent consideration is being given to the possibilities of introducing non-native species of fish to supplement present stocks in Lake Ontario and to add to both sport and commercial fisheries.

## The Harkness Laboratory

The variety and long-term continuity of the fisheries research program, centered on Lake Opeongo in Algonquin Park, has resulted, not only in many practical management techniques, but also in the accumulation of an excellent background knowledge of a large number of Park lakes and fishes. With this knowledge available, it has been possible to initiate active research programs very quickly because it has been unnecessary to search for the experimental conditions required. Thus our programs dealing with lake trout, smallmouth bass and brook trout have been based, initially at least, at the Harkness Laboratory.

The lake trout experimental planting program, presently designed to test the effect of stock source on survival, achieved another measured step forward in 1963 with the first of two special plantings in Lake Opeongo. This phase of lake trout research was started in 1960 when it was noted that hatchery reared lake trout, when planted in Lake Manitou, survived extremely well, but that trout from the same lot and source failed to survive in Lake Opeongo. It was postulated that this survival difference might be related to differences in water hardness between the stock source lake, the hatchery, and the planting lake. In the fall of 1961, lake trout eggs were collected from Lakes Opeongo, Lavieille and Simcoe, the planting lake, a soft water lake and a hard water lake. Each lot of eggs was divided, one half being hatched and reared in a soft water hatchery, the other being hatched and reared in a hard water hatchery. All lots of trout were marked distinctively, transported identically and planted almost simultaneously as yearlings in Lake Opeongo. The plantings will be replicated in the spring of 1964. Then begins the long wait for fish of the various lots to grow into the fishery during the next four or five years, when we will be able to compare their survival rates.

## BROOK TROUT

Because the brook trout has a shorter life span, research on this species tends to yield results more quickly. Preliminary results of the first experimental plantings made in the spring of 1962 were available through anglers and experimental netting during 1963. The recovery of planted brook trout, assumed to be directly related to survival, was 29.4 per cent in a lake where the only other species present were minnows. In lakes where suckers as well as minnows were present with the planted trout, the recoveries ranged from 2 to 4 per cent. In lakes where perch, pumpkin-seed, bullheads, suckers and minnows were present, only 0.4 to 1.8 per cent of the planted trout were recovered. These preliminary findings will be checked by replicate plantings. The relationship between brook trout and the common sucker, apparently so detrimental to the survival of planted brook trout, will require study before it is understood.

## SMALLMOUTH BASS

Work on smallmouth bass was again largely confined to Lake Opeongo and to efforts to understand the relationship between strong bass year classes and unusually warm summers. It is considered that Opeongo is typical of bass lakes in the Shield area of Ontario, and that this research will be applicable to most bass waters in northern Ontario. Plans to undertake research on bass in the southern part of the province await funds and staff.

## WALLEYES

Authority and funds were received at the beginning of 1963 to establish a research program on walleyes. Difficulties in staff recruitment delayed initiation of an active program until February 1964. Consideration has been given to the problems in walleye management throughout the province. This, together with a survey of the literature, has suggested that the most productive research is likely to be in the field of walleye ecology. Potentially suitable lakes for this kind of research are being sought with district help.

## LIMNOLOGY

Support, financial and co-operative, was again provided to the Great Lakes Institute, University of Toronto, in its program of studying the physical and



chemical characteristics of the Great Lakes. Our limnological research staff have provided effective liaison with the Institute and the results of their program are now readily available to our staff. The efficiency of both limnological and meteorological data collections, undertaken by each of our research units, has been, and is being, improved by this research team. Special projects dealing with the apparent rapid ageing of the Bay of Quinte, and with the fouling of commercial gill nets by algae, have been initiated.

## PARASITOLOGY

Studies of the parasites of Ontario fishes continued in 1963 with collections from Lakes Ontario, Erie, Huron, Opeongo and Lake-of-the-Woods. Occasional specimens were also submitted from many other waters throughout the province by Departmental staff and by anglers. The number of "firsts" in this work, new host species, new parasites, and new records continues to impress us with our ignorance of this subject. Much has yet to be learned about the kinds of parasites we have in our important fish species before we can move on to assessing their effects and possibly to developing techniques for reducing the levels of parasitization. It is considered quite possible that some of the parasites identified are capable of causing fish mortalities of serious economic proportions in waters as large as the Great Lakes. Some parasites, if obvious to the naked eye, reduce the marketability of commercial species.

## SELECTIVE BREEDING

The selective breeding of hybrids between brook trout and lake trout has as its objective the development of a new breed which, by virtue of spawning at an early age and of being able to swim in deep water, will be able to maintain a population in the former lake trout habitat of the Great Lakes, even if the control of sea lampreys proves impractical. In addition to this immediate and practical objective, much is also being learned about the patterns of character inheritance in fish. Such new knowledge and techniques may well be as important in future fisheries management as it now is in the fields of agriculture, livestock and horticulture. Problems of overcrowding and disease because of inadequate physical facilities continued to plague the project during 1963. Some relief was provided by the loan of space and facilities at the Tarentorus Trout Rearing Station at Sault Ste. Marie. This space has allowed the mass selection work to resume after its interruption during 1962 and the consequent discarding of a year class.

The key to additional facilities for the project at Maple may have been discovered during 1963 with the development of a filtering arrangement which allows the re-circulation of water. If this equipment is workable on a large scale, water supply limitations will have been circumvented, not only for this research, but potentially for new production hatcheries throughout the province.

Results of recent tests of the inheritance rate for the characters we are selecting are such that we are almost positive that the project will be a complete success within the next five years if the physical facilities to complete the work are made available.

## LAKE PRODUCTIVITY

Studies aimed at developing a system of classifying waters, based on their potential to produce pounds of fish were initiated by the Fish and Wildlife Branch some years ago. This work has been recently extended by staff of the Research



Branch, as time from other duties was available. Preliminary analysis of data and literature has provided a clearer picture of the type of long range research program required to develop a practical classification system for Ontario waters. A recommendation for such a long-term research program has been submitted.

## HEADQUARTERS

Headquarters staff performed administrative duties and ensured co-ordination between research units of the section and between the Section and other agencies in Ontario and abroad. The function greatly increases the effective amount of research applied to fisheries in Ontario beyond that amount actually undertaken by the Province. Staff again participated in the program of the Great Lakes Fishery Commission, particularly the sea lamprey control experiment.

## FORESTRY RESEARCH

The forest research program is accomplished by the integration of the work between six research units which are located in the major forest regions of the Province and five research units which are centralized at the Southern Research Station at Maple. The program is described below under the headings of Site Research, Silviculture Research, Nursery and Plantation Research, Tree Breeding, White Pine Blister Rust, Quality Wood Studies and Economics.

### Site Research

Land is the basic resource from which come crops of timber, agricultural produce, wildlife and fish or uses such as recreation. Various types of land exist which have different capabilities for the production of any specific crop. Different crops have different land requirements. Consequently, the same type of land may have a different rating for each crop or group of crops.

The purpose of site research is to develop an ecological basis for efficient resource management and land-use planning. The Department's site research program comprises (1) the recognition and classification of the different types of land (sites) in Ontario and (2) the evaluation of the potential capabilities of the sites for various crops and uses, and the management problems involved in achieving maximum production.

For convenience, site research may be discussed under three main headings: Regional Site Research, Factorial Site Research and Site Productivity Research.

### REGIONAL SITE RESEARCH

Regional site research is organized within the framework of climatic regions called site regions. Included in this research are (1) the recognition, classification, mapping and description of the physiographic sites of a site region, (2) the determination of natural vegetation successions in relation to physiography within the site region, (3) the initial evaluation of the potential productivity of the more important sites for individual crop species, (4) the evaluation of those management problems which are ecologically controlled, and (5) the evaluation of the capabilities of the sites for various land uses. The mapping and description of the sites may be done at various scales, and a study of the regional glacial history is often needed as a background to this.

Regional research continued this year in Northwestern, Northeastern and Southeastern Ontario. A report entitled "The Land and Water Resources of the

Tweed Forest District" was prepared. This constitutes Study No. 1 in a series of background papers on resource development published by the Department of Agricultural Economics, Ontario Agricultural College. In this report, the landscape unit was introduced as a suitable unit for land-use planning at the community level.

In Southcentral Ontario, the detailed study of parent soil materials in the Pembroke District was continued. The publication of Research Report No. 50 provides information on the potential of the mapped land units for agricultural and timber uses, for consideration in timber management and land-use planning.

## FACTORIAL SITE RESEARCH

Factorial Site Research covers the study of individual site factors and their significance for plant growth. In contrast to Regional Site Research, only one causal factor is considered at a time, and this in a more detailed, quantitative fashion. Notwithstanding, each factor is considered within the framework of the total site complex.

At present, two groups of factors are under study by the Site Unit, namely, soil nutrient and soil moisture. Two major objectives have been selected for soil nutrient investigation; the first, to determine the relative value of mineral soil materials as sources of nutrients; the second, to determine the variability of available soil nutrients including those in forest humus. The three projects in progress are:—

- (1) Calcium release from minerals.
- (2) Nutrient release from soil parent materials.
- (3) The regimes of soil nutrients under various combinations of vegetation, soil profile development and parent soil material.

Initially, the soil moisture investigations have been aimed at determining the magnitude of water deficits and their effect on tree growth. The two programs which received attention during 1963 were (1) regional soil moisture regimes, and (2) moisture deficits on deep dry sand.

## SITE PRODUCTIVITY RESEARCH

Site productivity research comprises the study of the comparative productivity of different sites at various area scales and from different viewpoints, namely, biological, technological, economic and social. Productivity studies include not only the type of crops, and the yield in terms of quantity and quality, but also the conditions and practices required to obtain specific yields. In these studies, the findings of regional and factorial site research are integrated within a hierarchy of scales which facilitate the various ratings required for resource management and land-use planning.

In 1963, a start was made in assembling data concerning potential site index values for various physiographic site types and forest species in each of the site regions of Ontario.

During the year, a working liaison was also established with specialists in wildlife research and management in order to obtain better definition of classes for rating the potential of land for wildlife production.

## Silvicultural Research

Silvicultural research units have been established in each region of the province to study the characteristics of the commercial tree species and the environmental factors which affect growth and reproduction. The object is to develop

cultural practices which will ensure maximum production of quality wood within economic limits. Such knowledge is essential for the proper management of the forest resources of Ontario. An outline of the status of the main projects for each regional unit is given below.

## MID-WESTERN FOREST RESEARCH UNIT

During 1963, the regular program of silvicultural research was continued but much emphasis was placed on the reporting aspects of the program. A minimum of field work was conducted to maintain the examination schedules of specific projects and to obtain necessary data to complete compilations and reports.

*Natural Regeneration of White Spruce and Balsam Fir.* An analysis of regeneration information collected from plots established in 1948 to determine the effects of conventional clear cutting was continued. To supplement these data, approximately 350 spruce and balsam fir seedlings were collected and stem sections permanently mounted on microscope slides and aged.

An examination was made on a regeneration study, established in 1960 to determine the effects of modifying conventional cutting by leaving white spruce seed trees. The trial incorporated seed bed preparation by ground disturbance due to mechanical tree length logging. Fifty 1/10 acre main stand plots and 1,000 mil-acre regeneration plots were involved.

*Artificial Regeneration Studies, Jack Pine.* The analysis of information was continued from an area which had been aerial seeded after a controlled burn and from an area that had been mechanically scarified and cone bearing brush distributed. In addition, about 600 jack pine seedlings from the two areas were obtained for stem studies and ageing by microscope to substantiate the information collected in prior years.

*Ageing Techniques.* To ensure accuracy in ageing small coniferous seedlings, counting rings by hand lens was rejected in favour of microscopic means. Devising a suitable process involved microtome trials to obtain specimen cross sections, tests of wood stains and slide mounting media, and trials of microscope and slide projection equipment.

*Reporting.* During the year, reports on three herbicide projects, an aerial seeding project, a microclimate study, a regeneration survey method and a study of seedling ageing processes were prepared and are in various stages of editorial review.

## NORTHERN FOREST RESEARCH UNIT

In the Northern region, work has been concentrated upon lowland black spruce, which is the primary source material of our pulp and paper industry. The initiation and development of new crops and the growth of existing stands are considered to be unsatisfactory.

The cause of poor reproduction is under study. Surface soil samples from recently cut areas have been obtained and seed counts made to determine whether the supply of natural seed could be considered adequate from year to year. This project was begun last year following the prolific seed year of 1962 and will continue to include the next year of abundant seed.

Initial studies were made upon alder stands in preparation for a more detailed program planned for this coming year. There is an apparent delay of some 30 years in the establishment of a new spruce stand after a logging operation, during which period alder seems to dominate the site. A study of alder is required to determine how this period of establishment for spruce may be reduced.



A site has been selected, drainage instituted and a series of plots designated on which a long range study of nutrients, of tree growth and of ground cover can be conducted. In the course of this preparatory work, promising new ditching techniques were found which will assist in the rehabilitation of wet sites.

A report has been submitted for publication concerning the effects of logging and burning upon a poorly drained organic site. There will be a further expansion of this study during the coming year. Three translations on peatland forestry from Russia, Finland and Norway have been submitted for publication.

## CENTRAL FOREST RESEARCH UNIT

The work of this unit consists of both field and laboratory studies of problems of tree nutrition related particularly to forest disturbance and regeneration. It also includes studies of the productivity ecology, and racial variation of red spruce. Work on smelter fume pollution in relation to forest soils and vegetation has been concluded for the present.

*Tree Nutrition, Forest Disturbance and Regeneration.* Studies are under way on the effects of prescribed burning and scarification upon nutrient release in the soil and the uptake of these nutrients on the growth of tree seedlings on different landtypes.

*Productivity Ecology of Red Spruce.* Red spruce has characteristics which make it very useful in improving the productivity of derelict tolerant hardwood and mixedwood stands. This study is expected to elucidate the silvics and silviculture of this species and provide definitive information of growth potential for planting programs.

The study is designed to measure growth and productivity of red spruce in pure and mixed stands on a complete range of physiographic sites across its range in Ontario. It is hoped to provide explanations of differences in spruce growth as related to nutrient uptake from forest soils. In addition, total productivity (dry weight production) and ground flora relationships are being investigated.

By using computer techniques, it is intended to construct a mathematical model to describe, explain and predict the foregoing relationships. Comparative measurements are already being made on white and black spruce when these species occur in association with red spruce.

Work is also proceeding on the racial variation in spruce in order to find the best ecological characteristics. The relationships of genetic variation to nutrition and growth in spruce are being investigated by measurement and analysis of different provenances and species, on the same and different sites. Early indications are that natural or artificial hybrids between red and black spruce, while possibly possessing some hybrid vigour, are not nearly as desirable as the parent trees. The hybrids are exceedingly rough and limby.

A large scale experimental underplanting has been established and assistance to the Timber Branch on the establishment of seed production areas is continuing.

## SOUTH CENTRAL FOREST RESEARCH UNIT

The objective of this unit is to provide information for the management of the important commercial tree species that occur in south central Ontario. These are sugar maple, yellow birch, white and red pines.

*Sugar Maple Studies—Growth and Quality.* Studies are being conducted to follow the development of defect in Maple and to learn how defect is associated with growth and environment. The objective is to define the conditions under which the optimum growth of quality maple wood can be attained.



To date the observations substantiate the concept of the relationship between growth rate and quality wood production. The current work includes a study of trees artificially wounded.

A marking scheme giving emphasis to stand improvement, maintenance of balanced stand structure and ease of application was tried with promising results.

*Red and White Pine and White Spruce.* The objectives of this work is to evaluate various techniques for establishing regeneration and improve the growth of pine. This is an important species to the lumbering industry of the area.

Sample data from an underplanting and release experiment using these species show striking differences in height development after nine growing seasons. Released red pine were 700 per cent taller than unreleased trees on a fresh site and only 160 per cent taller on a dry site. Current height growth of released red pine is 1,700 per cent greater than unreleased trees on the fresh site and only 180 per cent greater on the dry site. Similar trends exist for white pine and white spruce, although they have developed more slowly than red pine.

Remeasurement of thinned plots in a stand of red and white pine showed that ten years after treatment, diameter increment was greatest on the larger residual stems. Stand growth was greatest where large trees made up the highest proportion of the stand after treatment.

*Tube-grown Seedlings.* The objective of this work is to develop a fast, inexpensive method of reforestation which could be useful in extending the planting season and to provide stock on short notice for planting after wildfires. A pilot scale planting of ten thousand red pine was made on various sites in a first effort to develop production techniques.

## SOUTH WESTERN FOREST RESEARCH UNIT

The program in this region has been concerned mainly with the development of those species that have been regenerated artificially.

*Silver Maple Culture.* Silver maple (and eastern cottonwood) were established successfully following spring and fall planting on a cut-over silver maple-elm swamp. The average annual growth for both species at one and two years after establishment was approximately 2 feet. Weed competition appeared to be the most serious single factor in hindering growth and increasing mortality for both species.

Eighteen, high quality, silver maple phenotypes were budded in August on nursery stock at the Orono Nursery. The successfully budded trees will be propagated asexually and eventually established in plantations in those silver maple-elm swamps which are being devastated by the Dutch Elm Disease.

*Silvicultural Treatments.* The studies on the effects of thinning and of weather on diameter growth of hard maple, American basswood, white ash, silver maple, bur oak and red pine as measured by the dendrometer tapes were continued at bi-weekly intervals during the 1963 growing season. A report covering five years of diameter growth will be published in 1964. Spacing and pruning effects on height and diameter growth were also evaluated in a red pine plantation, as well as the effects of shearing lateral shoots on the growth of the terminal shoots of white pine, red pine and white spruce.

Red oak were established with acorns in a white birch nurse crop on a dry site at the Research Experimental Plantation in East Gwillimbury Township. Red oak and hybrid poplar which had been planted under cultivated conditions, are now being assessed as to the effects of cultivation and of protection against rabbits and frost in relation to growth and survival.

*Herbicides and Soil Sterilants.* The effects of eight herbicides and soil sterilants

on herbs and grasses in a fire guard were evaluated one year after treatment. Telvar, Urox and Simazine gave excellent results. The soil sterilants, Dybar and Urab also gave encouraging results by eliminating weed trees and shrubs in a stand conversion study at the East Gwillimbury Research area. Thinning with chemicals was continued in a silver maple swamp and assessment made of the effects of from one to three applications, applied once, twice and three times in the same year, and at yearly intervals over a three year period.

## SOUTH EASTERN FOREST RESEARCH UNIT

The main objectives of the South Eastern Research Unit are (1) to study the effects of prescribed burning and its role in forest management in Ontario. (2) To study the silvics of basswood with emphasis on the problems of germination. (3) To study the artificial regeneration of conifers on shallow till soils.

*Prescribed Burning.* In a small diameter hardwood stand mainly of sprout origin the third spring burn and the second fall burn were carried out successfully. Research Branch personnel also supervised two large burns in a 5-acre hard maple stand and a 10-acre yellow birch stand.

In the Swan Lake Research Reserve, the last of five scheduled fall burns was carried out in a stand which was predominantly hard maple. This species sometimes requires a few years to react to treatment. However, the mortality of trees greater than 4.5 inches d.b.h. now seems to be negligible.

*Basswood.* In September and October 1962 four seed collections were made at different stages of development. This seed was stratified in a storage pit over winter. When the seeds were uncovered in the spring of 1963, most had well developed radicles. Germination of the four collections ranged from 37 per cent to 79 per cent, the best germination occurring in seeds collected when the seed coat was soft but the seed fully mature.

Basswood seedlings were underplanted in 1962 and 1963 in a hardwood cutover and the survival is 77 per cent and 90 per cent respectively. Permanent sample plots were established in the cutover, and natural basswood seedlings on the plots were staked and tagged for studies of growth and survival. These data will be compared with growth records of natural hard maple seedlings.

*White spruce.* In this co-operative program with the Wildlife Section and the Tweed Forest District, designed to study the management of an area for deer and timber, further regeneration studies were made prior to the final cut on the study area in the winter of 1963-64.

*Artificial Regeneration.* After four growing seasons a tally of the growth and survival of white pine, red pine and white spruce on shallow till over bedrock indicated over 80 per cent survival for fall planted white and red pine of 2-2 age and spring-planted red pine of 2-0 and 2-2 age. The survival of white spruce ranged from 14 per cent to 65 per cent.

## Nursery and Plantation Research

The program of reforestation research is designed to contribute to the scientific advancement in the field of artificial regeneration in the Province. The studies are conducted in nurseries or in planting areas.

## FERTILIZATION STUDIES

Fertilizers are being tested to obtain higher survival and better growth of newly established plantations. Experimental fertilization has been done also in several

older plantations where the amount and kind of fertilizer required is guided by soil and foliar analysis in the laboratory.

The increased growth in the trees is recorded by means of dendrometer bands, and by measurement of current height growth.

## FROST DAMAGE

Frost studies are important because of the sometimes extensive mortality to new plantations and damage to growth in older plantations. Experimental techniques have been established for the application of frosts of various degrees to small trees in the field. Studies on the course of frost resistance of several species are being conducted. Rapid procedures to measure the extent of frost damage by electrical resistance have proved valuable. Additional studies have shown reliable methods for the identification of previous frost damage in older trees.

## NURSERY AND PLANTING STUDIES

The investigation of artificial methods of soil acidification have provided information on the value and safety of several methods. Application of sulphur to the soil has shown benefit although final assessment of the success of the trees after leaving the nursery has not been completed. Other work is concerned with the problems of nursery seedling production and inventory, and with the effects of different methods of planting and site preparation on the subsequent performance of a plantation.

## Forest Tree Breeding

Breeding work with white pines, aspen poplars and hard pines was continued. A project in spruce breeding was initiated with the objective of developing spruce of superior quality for planting in northern Ontario.

### WHITE PINE

Resistance to blister rust and weevil, and satisfactory growth rate and growth form continue to be the main objective of this project. Second generation blister rust resistant white pines are now beginning to flower and are being crossed to determine which trees combine best in respect to rust resistance. Exploratory crossing of white pines at the interspecific level indicated that Macedonian and Himalayan white pines are the most promising sources of rust resistance for crosses with native white pine.

Promising results from tests indicate that certain strains and types of white pine are resistant to white pine weevil.

### ASPEN POPLARS

The production of aspen-like hybrids, suitable for growing in southern Ontario, having good growth rate and growth form, good wood and ease of vegetative propagation are the main aims of this project.

Emphasis in the project has gradually changed from extensive testing of large quantities of average material to intensive testing of the most desirable types. Rooting ability of some hybrids reached over 90 per cent in 1963.



## HARD PINES

The objectives of the hard pine breeding work are to produce a red pine or red pine-like tree resistant to the pine shoot moth and of satisfactory growth rate and growth form.

Recent studies with red pine indicate that the species is genetically uniform. This extreme uniformity and the difficulty encountered in obtaining interspecific crosses limit its value as a source of variation from which selections can be made.

During 1963, an intensive effort was made to cross red pine with other closely related species. Work on shoot moth resistance was continued with other hard pine species and hybrids. *Pinus nigra* var *calabrica* appears to be promising in this respect.

### Report On Blister Rust Investigations — 1963

Blister rust investigations in 1963 were pursued in the following Districts: Lake Erie, Lindsay, Pembroke, Port Arthur, Fort Frances and Kenora. Work was arranged in consultation with the Districts concerned, and was facilitated by the participation of District staff in field surveys.

Four categories of work were represented as follows:

- (1) Investigation of epidemic conditions at selected stations. The aim of this work, a continuing project, is to document and interpret the spread and development of blister rust in the pine forests of the province. The program was pursued in all Districts above except Kenora.
- (2) Appraisal of damage to timber, natural regeneration and plantings.
- (3) Evaluation of risk. This work involves damage appraisal in relation to length of exposure to infection, the rating of *Ribes* abundance and other determinative factors. It serves to guide planting and other management and protection decisions.
- (4) Inspection of nurseries at Fort William and Dryden.

## Wood Quality

The Ontario Research Foundation obtains an annual grant from the Provincial government to carry out a quality wood program. Their program is divided into two spheres of activity; anatomical studies and studies of wood chemistry. The function of the Quality Wood Unit is to ensure that the program carried out by the Ontario Research Foundation is directed to the aims of the Steering Committee, and to relate the findings to field applications, thus providing an improved wood supply for industry. In addition, trials will be run to assess the natural variations found in specific wood properties such as wood density and spiral grain.

## WOOD FIBRES

The relationships between external foliar characteristics and wood fibre morphology are being investigated. An assessment was made of the relationship between needle spacing on shoots and needle mass per unit length of shoot for black spruce. It was found that with increasing needle density, weight per needle tended to decrease, but needle weight per centimetre increased. There was a significant positive correlation between needle weight per centimetre and height or diameter.

The present phase of the fibre investigation is to assess the relationship between needle mass and fibre morphology, including tracheid length and diameter.



## WOOD CHEMISTRY

A procedure has been established for simultaneously pulping 16 samples of black spruce chips by the Sodium Bisulphite process, using a wood sample as small as 5 grams. Other equipment is available to make small sheets of paper and to run standard tests such as tensile, burst and tear strength.

One of the defects in paper is caused by a fibre condition known as compression wood. The chemical section has pulped compression wood and non-compression wood samples taken from the same disc. The chemical differences of these pulps and the quality of the paper they make have yet to be determined.

## FORESTRY ECONOMICS UNIT

This unit is still in its formative stage, and has not as yet developed a formalized research program.

During the 1963 fiscal year some time was spent by the member of this unit on a temporary project in the Port Arthur District. A portion of the winter season was devoted to a detailed analysis of the Soviet paper bag market and the preparation of a report on this topic.

In developing a program for this unit, the aim is towards a close co-operation with established research projects where economic study is necessary and desirable. Co-operative work of this nature may be initiated during the 1964 fiscal year in conjunction with the Agricultural Reconstruction and Development Act (ARDA) project in which this unit could participate actively.

## STATISTICS AND MENSURATION

Assisting in the design, analysis and interpretation of experiments constituted the major work of the section. The field of investigations included experiments with nursery stock, studies in forest genetics, silvicultural experiments in the forest, wild life investigations and analysis of lake waters with reference to fish habitats.

### Systematic Sampling in Cruising

Objective: To determine the accuracy of systematic sampling and the precision with which the probable accuracy of the results can be estimated.

Data loaned by the U.S. Forest Service comprising a complete measurement of all trees on an area of nine square miles were used to show the relationship between estimated and actual stand volumes and the accuracy of the estimates of error based on selected samples. A primary objective was to study a special method of making such estimates of error devised by D. B. DeLury, Chairman of the Department of Mathematics of the University of Toronto.

Additional work requiring the use of similar techniques was carried on as outlined below in the field of forest mensuration.

### Determination of Volume of Wood Cut

Objective: To investigate possible alternative methods to the present method of complete scaling of timber.

The methods worked out in this project have been given practical application for two seasons on a mechanized operation where there was no convenient opportunity for scaling in the ordinary way. A report describing the methods used in this investigation is in preparation.

## Permanent Sample Plots

Objective: To obtain knowledge of tree growth and of the effect of thinnings, release cuttings, etc., by periodic remeasurement of plots.

Twenty-one plots on the Orr Lake and Hendrie Agreement Forests in Simcoe County were remeasured and thinned. Twenty-four new plots were established on the Drury Forest.

## Volume Tables

Objective: Construction of volume tables for our principal timber species.

Data were supplied in 1962 to a graduate student in the Faculty of Forestry into methods of constructing volume tables on a computer. He was employed during the summer to test additional formulas thought to be better adapted to the construction of tables of merchantable volumes in board feet. Volume tables for sugar maple, according to the Ontario and two other log rules, were constructed.

## MECHANICAL RESEARCH

During the past year, the Mechanical Research Section was called upon to design and construct a variety of devices required for research and other departmental uses.

The main projects were concerned chiefly with the production of special tree seeding equipment, both for aerial and ground application.

An extensive program of testing forest fire fighting equipment was carried on throughout the year.

In addition, tenders were let for the construction of twelve steam cookers, the pilot model of which was produced by this section in 1961-62. These cookers will be distributed at strategic points throughout the province for use on forest fires and other bush operations.

While space does not permit a detailed report of the year's activities, the projects described below will serve to illustrate the scope and variety of work undertaken by this section.

### FORESTRY SECTION — RESEARCH BRANCH

In co-operation with the forestry section, complete equipment for the mass production of tubed seedlings was designed and completed during the year.

Numerous items of equipment are required for this operation, i.e. a machine for coating the paper tubes with latex paint and drying them at the rate of 1,500 per hour was built and used to coat an initial supply of 100,000 tubes. Other devices were built to load the tubes with soil, in batches of 200 to a box. To place one tree seed in each tube, a vacuum seed pick-up was specially designed. A planting device for the tubes was also produced.

### TIMBER BRANCH

Two modified versions of the helicopter seeder which was used last summer were turned out during the winter. Incorporated in these seeders is a retractable device for lowering the seed slinger below the helicopter floats, while actual seeding is in operation. The new models can be mounted on the helicopter in less than an hour, a vast improvement over former models.

## FOREST PROTECTION

Operation of the fire fighting equipment laboratory was continued throughout the year. The new light weight Gorman-Rupp Bakpump was tested, both for performance and endurance. While this unit has some worthwhile features, it is not considered suitable for a first-line pump according to Departmental standards.

Extensive tests were carried out on the drying of fire hose for the purpose of developing a hose dryer having an output of about 1,000 feet per hour.

## MISCELLANEOUS

As has always been the case in the past, this section carried out a large number of jobs of a lesser nature, such as, making up various kinds of laboratory equipment, repairing instruments, etc. A considerable amount work was done on the research vessels in the way of engine installations and modifications to existing power-plants and auxiliary equipment.

## REPORTS

Research Branch Reports Published During the Year Ending March 31, 1964.

### Fisheries

The Effects of Artificial Propagation and the Weather on Recruitment in the Lake Ontario Whitefish fishery—W. J. Christie, J. Fish. Res. Bd. Canada 2(3), 1963.

The Spatial Distribution of Fish in Gill Nets. A. H. Berst and A. McCombie. J. Fish. Res. Bd. Canada 20(3), 1963.

Selectivity of Four Trawl Cod-ends toward Smelt. R. G. Ferguson and H. Regier. Trans. Am. Fish. Soc. Vol. 92, No. 2, April 1963.

Sounding Line. H. C. Holmberg. Prog. Fish Culturist, Vol 26, No. 1, Jan. 1964.

A Reconnaissance of Brook Trout Lakes in the Algonquin Park Area of Ontario. J. M. Fraser. Section Report (Fisheries) No. 46.\*

### Forestry

The Possible Effects of Microclimate on the Germination of Eastern White Pine Seed. N. F. Lyon. Section Report (Forestry) No. 47\*.

Report on the Interim Results of Prescribed Spring Burning a Poor Quality Hardwood Stand. J. M. Sykes. Section Report (Forestry) No. 49.\*

The Fibre Characteristics of Black Spruce in Relation to Wood Quality. A. D. Hall. Research Report No. 49.

The Land Resources of the Sudbury Basin. G. Pierpoint and G. A. Hills. Research Report No. 50.

Reforestation of a Sand Plain in Ontario. R. H. Leech. Research Report No. 51.

Preparation and Planting of Tubed Seedlings. V. H. H. Williamson. Research Report No. 52.





A young roughed grouse is studied by a research worker at Algonquin Park Research Station.



The Breeding of White Pine for Resistance to Weevil. C. Heimburger. Paper given at World Consultation on Forest Genetics and Tree Improvement—August 1963.

Planting Check in Spruce. R. E. Mullin. Reprinted from Forestry Chronicle, Vol. 39, No. 3, Sept. 1963.

Opportunities for Export of Paper Bags to the U.S.S.R. J. Holowacz. Special Report requested by Deputy Minister.

### Wildlife

Notes on the Harvest of Spruce Grouse. H. Lumsden and R. W. Weeden. Jour. Wildl. Mgt., Vol. 27, No. 4, Oct. 1963.

Further Records of the Ross' Goose in Ontario. H. Lumsden. Can. Field-Naturalist, Vol. 77, No. 3, pp. 174-175, July-Sept., 1963.

Golden Eagle Nesting in Ontario. H. Lumsden. Auk. Vol. 81, No. 1, p. 91. Jan., 1964.

A Surf Scoter Nesting Record for Northwestern Ontario. D. W. Simkin. Can. Field-Naturalist, Vol. 77, No. 1, p. 60. Jan.-March, 1963.

Rabies in Ontario. Research Information Bulletins (Wildlife) for February, March, April, May, June, July, August, September, October, November and December 1963 and for January, 1964 by D. H. Johnston.\*

Bio-telemetry. D. H. Johnston. Paper presented at Annual Meeting Can. Soc. Wildl. and Fisheries Biologists, Ottawa, 1964.

Radio Tracking Progress Report. D. H. Johnston. Paper presented at the North-eastern Wildlife Conference, Hartford, Conn. 1964.

Some Facts About Predator Research and Management in Ontario. G. Kolenosky, J. Shannon and R. Standfield. Progress Report, 1964.

The Beaver on Michipicoten Island. E. A. Pozzo and A. B. Stephenson. Ont. Resource Management Report 69. May 1963.

A Study of Moose Reproduction and Productivity in Northwestern Ontario. D. W. Simkin. M.A. Thesis, Cornell University. June, 1963.

Michipicoten Island Beaver Trapping. A. B. Stephenson and E. A. Pozzo. Ont. Fish and Wildlife Review, Vol. 2, No. 5, pp. 8-14. Summer, 1963.

\*Reports distributed only to Department Staff.



Helicopter seeding unit.



Traxcavator lifting logs, Sault Ste. Marie District.

# TIMBER BRANCH

## Responsibilities of Timber Branch

1. Timber sales and Licences, measuring of timber cut, preparation of accounts for collection of stumpage charges, compiling of statistics.
2. Production of planting stock at tree nurseries. This includes acquisition, treatment, storage, distributing seed, the establishment of seed production plots, and the distribution of nursery stock for planting.
3. Management on a sustained yield basis of the Forests of the Province, the preparation of the forest inventory and its continuous up-dating. Preparation and analysis of operating and management plans covering Crown and Company management units. Directing cutting methods to promote natural regeneration and release cutting for stand improvement.
4. Supervision of reforestation on Crown land by tree planting and direct seeding and other means.
5. Extension Forestry which assists organizations and individuals interested in reforestation, woodlot management and conservation.
6. Management and reforestation of demonstration forests, County and Municipal forests, Conservation Authority forests under agreement for management.
7. Planning and supervision of the construction of forests access roads to open up wood producing areas.
8. Licensing of sawmills, pulp and paper mills.
9. Registration and licensing of scalers.

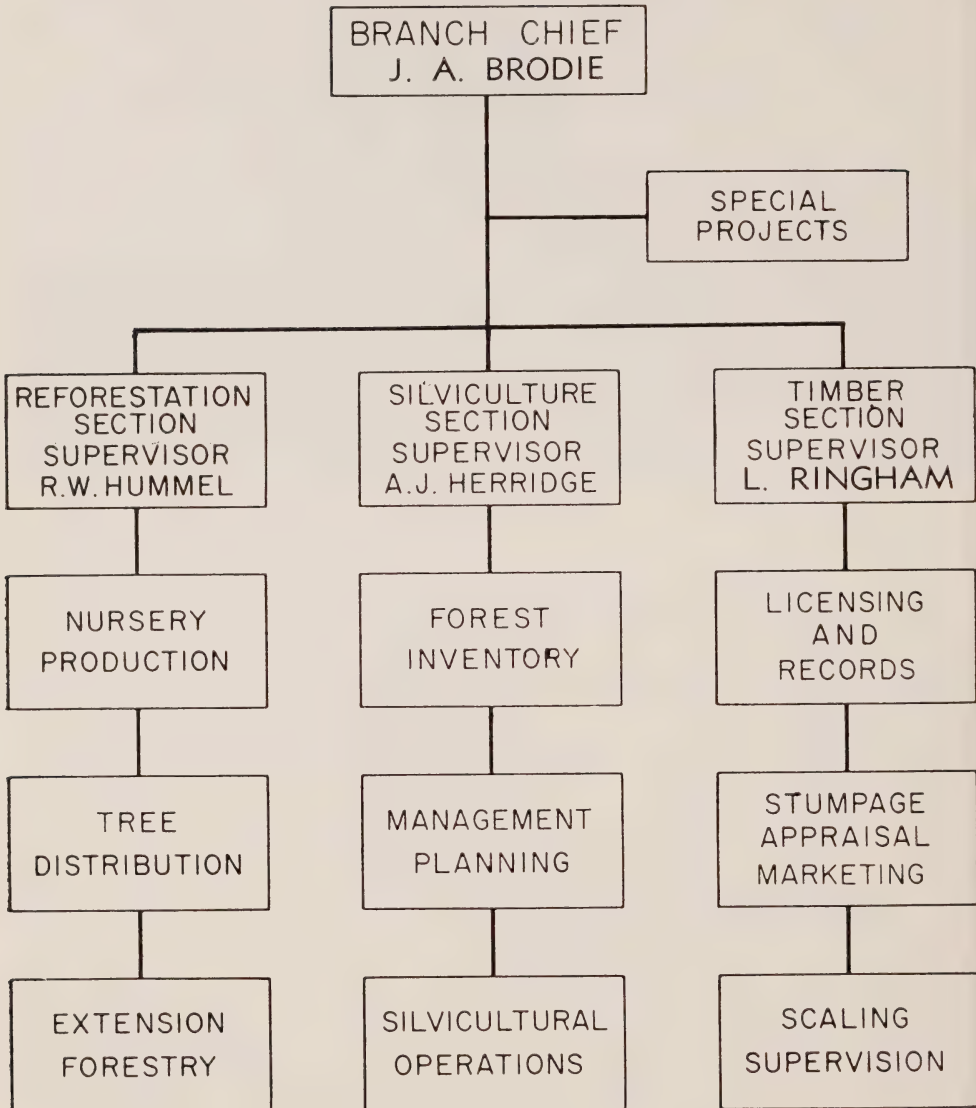
## REFORESTATION SECTION

During the current fiscal year, 43,922,685 units of nursery stock were furnished from 11 nurseries operated through the Reforestation Section. This is an increase of 154,769 over the number furnished during the previous fiscal year.

Tree seed was collected, processed, and sown and nursery operations continued to develop the output of nursery stock from the nurseries to approximately 60,000,000 units per annum in accordance with established targets.

The acreage of forest areas being managed for Counties, Townships, and Conservation Authorities under agreements entered into between the Minister and such corporations increased by 10,604.857 acres to a total of 178,127.057 acres.

# TIMBER BRANCH





## SUMMARY OF DISPOSITIONS OF NURSERY STOCK

April 1, 1963 to March 31, 1964

Planted on lands vested in Her Majesty in right of Ontario .....	30,754,175
Planted on County, Township, Conservation Authority and other lands managed by the Minister .....	3,998,065
Furnished for Education and Scientific purposes .....	21,739
Furnished in respect of Private lands .....	9,016,400
Miscellany .....	132,306
 TOTAL .....	 <u>43,922,685</u>

## NURSERY STOCK DISPOSITIONS

April 1, 1954 to March 31, 1964

Year	Units
1954-55 .....	25,519,383
1955-56 .....	28,351,483
1956-57 .....	31,081,112
1957-58 .....	25,854,262
1958-59 .....	33,414,110
1959-60 .....	41,682,125
1960-61 .....	49,833,412
1961-62 .....	43,194,863
1962-63 .....	43,767,916
1963-64 .....	43,922,685

TREES FURNISHED IN RESPECT OF PRIVATE LAND  
April 1, 1963 to March 31, 1964

County or Territorial District	Trees
Algoma .....	229,525
Brant .....	93,350
Bruce .....	97,025
Carleton .....	215,850
Cochrane .....	3,500
Dufferin .....	353,125
Dundas .....	56,825
Durham .....	394,400
Elgin .....	130,750
Essex .....	36,225
Frontenac .....	107,575
Glengarry .....	26,175
Grenville .....	135,050
Grey .....	260,550
Haldimand .....	76,375
Haliburton .....	122,925
Halton .....	146,900
Hastings .....	251,400
Huron .....	190,800
Kenora .....	48,175
Kent .....	30,550
Lambton .....	78,875
Lanark .....	121,625
Leeds .....	71,575
Lennox & Addington .....	59,125
Lincoln .....	31,900
Manitoulin .....	21,625
Middlesex .....	265,275
Muskoka .....	201,825
Nipissing .....	84,550
Norfolk .....	249,325
Northumberland .....	96,425
Ontario .....	342,325
Oxford .....	96,900
Parry Sound .....	235,850
Peel .....	376,850
Perth .....	40,750
Peterborough .....	142,175
Prescott .....	63,300
Prince Edward .....	14,525
Rainy River .....	71,350
Renfrew .....	288,550
Russell .....	108,250
Simcoe .....	700,325
Stormont .....	56,575
Sudbury .....	190,325
Timiskaming .....	19,175
Thunder Bay .....	184,550
Victoria .....	112,400
Waterloo .....	150,625
Wendell .....	259,500
Wellington .....	442,800
Wentworth .....	216,675
York .....	613,450
TOTAL .....	9,016,400

AGREEMENTS UNDER SECTION 2 OF THE FORESTRY ACT  
(as of March 31, 1964)

Agreement with	Date of Agreement	Number of Acres	
<b>Conservation Authorities:</b>			
Ausable River	Dec. 13, 1951	4,249.00	
Big Creek Region	Dec. 2, 1954	2,638.90	
Catfish Creek	Dec. 19, 1962	401.00	
Central Lake Ontario	Sept. 24, 1963	145.00	
Crowe Valley	Aug. 21, 1963	200.00	
Ganaraska Region	Jan. 31, 1947	7,978.60	
Grand Valley	Mar. 18, 1952	5,283.06	
Maitland Valley	Apr. 1, 1955	949.00	
Metropolitan Toronto & Region	Apr. 11, 1951	1,878.00	
Moirs River	Nov. 28, 1951	12,575.00	
Napanee Valley	Oct. 28, 1954	6,145.00	
Neebing Valley	May 15, 1958	1,256.70	
Niagara Peninsula	June 5, 1963	186.00	
North Grey Region	June 25, 1958	4,838.00	
Otonabee Region	May 15, 1963	800.00	
Otter Creek	Apr. 26, 1957	1,260.00	
Sauble Valley	Sept. 23, 1959	1,918.00	
Saugeen Valley	Dec. 15, 1952	10,529.00	
South Nation River	Mar. 28, 1960	226.50	
Spencer Creek	Oct. 19, 1962	12.50	
Upper Thames River	Apr. 11, 1951	3,344.36	
			66,813.62
<b>Counties:</b>			
Brant	Nov. 15, 1952	50.00	
Bruce	Jan. 20, 1950	15,153.35	
Dufferin	Nov. 26, 1930	2,305.00	
Grey	Dec. 21, 1937	8,178.08	
Halton	Mar. 14, 1950	1,245.63	
Huron	Nov. 27, 1950	1,439.00	
Kent	Dec. 23, 1953	75.39	
Lanark	July 5, 1940	3,346.00	
Leeds & Grenville	Apr. 24, 1940	6,064.50	
Lennox & Addington	Apr. 3, 1952	1,186.00	
Middlesex	Mar. 8, 1954	1,019.50	
Northumberland & Durham	June 10, 1924	4,877.00	
Ontario	July 9, 1930	2,000.00	
Oxford	Sept. 1, 1950	716.56	
Prescott & Russell	Mar. 15, 1937	23,485.83	
Renfrew	Dec. 26, 1951	4,432.00	
Simcoe	June 19, 1925	18,704.047	
Stormont, Dundas & Glengarry	Sept. 20, 1949	2,048.45	
Victoria	Aug. 10, 1928	7,044.00	
Waterloo	Apr. 17, 1950	710.48	
Wentworth	Nov. 27, 1952	889.30	
York	Mar. 27, 1924	3,917.08	
			108,887.197
<b>Townships:</b>			
Bonfield	Apr. 1, 1952	60.00	
Charlottenburgh	Apr. 1, 1955	175.00	
Cramahe	Jan. 14, 1964	162.00	
Cumberland	May 29, 1952	808.44	
Galway & Cavendish	Nov. 1, 1952	100.00	
Machar	Dec. 30, 1963	90.00	
Marlborough	Nov. 21, 1953	200.00	
Torbolten	Mar. 28, 1953	430.80	
Williamsburgh	Oct. 19, 1962	400.00	
			2,426.24
TOTAL			178,127.057

## SILVICULTURE SECTION

### *Inventory Unit*

Capital Air Surveys Limited completed 1,182 square miles in the Cochrane and Kapuskasing Districts, which represents the completion of the 1961 rephotography contract. Hunting Survey Corporation Limited photographed 9,420 square miles in the Port Arthur and Geraldton Districts, leaving 14 square miles to be completed in 1964. The 1963 rephotography contract was awarded to Hunting Survey Corporation Limited, covering the Districts of Gogama, Chapleau and White River. Of the 14,340 square miles this contract represents, 14,049 square miles was completed, leaving a carry-over of 291 square miles in 1964.

Field Work was located in the Districts of Cochrane, Kapuskasing and Port Arthur. Six field parties using the wedge prism method of cruising obtained ground samples in the following Crown Management Units:—Cochrane, Timmins, Kapuskasing, Northern, Hearst, Oba, Black Bay, Sibley, Fort William, Shebandowan and Northern Light.

Photo interpretation was completed on 9,000 square miles of the above field work. Forest stand maps on a township basis were completed on 9,508 square miles of the Spanish River, Gooderham, Bancroft, Dacre and Huntsville Crown Management Units, and the Agreement Forests located in Lake Simcoe, Lake Huron and Lake Erie Districts. Tabulated forest ledgers representing area classifications, detailed stand descriptions, and summaries by age classes and site classes were completed on 7,811 square miles of the Spanish River, Gooderham, Trout Lake, Bancroft, and Dacre Crown Management Units, and the Agreement Forests in Lake Simcoe, Lake Huron and Lake Erie Districts.

The multiplex plotting machine was used to interpret contours and form lines and prepare plans for Parks Branch. Under this program plans were completed for Middle Falls Park, 3.4 square miles at a scale of  $500' = 1$  inch with 10' contour intervals, and Bottle and Sucker Lakes Park, 4.4 square miles at a scale of  $600' = 1$  inch with 20' contour intervals.

The use of planimetric and forestry maps remained at a high level and were reproduced as white prints under a one-year contract to Atlas Helio Company Limited. The photoprocessing staff produced 109,013 contact prints; 1,687 photo mosaics at a scale of  $1'' = 1$  mile, 83 at a scale of  $2'' = 1$  mile, and 1,269 at a scale of  $4'' = 1$  mile; 2,729 enlargements; 15 film diapositives, 26 Multiplex plates and 541 Kelsh plates; 694 copy negatives; 678 cronaflex prints, and developed 83 35mm slides and 4 rolls of aerial film.

### Silvicultural Operations

The work carried out in this unit is concerned with securing regeneration of a new stand of desirable species or improving the quality of an existing stand. For administrative purposes, this work is broken into the following groupings:—

- A. Artificial Regeneration;
- B. Stand Improvement;
- C. Special Projects.

The emphasis of Silvicultural Operations is on obtaining adequate regeneration. Information presently assembled indicates an annual need for regeneration treatment on approximately 145,000 acres. Surveys conducted recently indicate that an annual regeneration treatment programme, including a reasonable rate of retiring the backlog of old cut-over and burned-over areas on Crown lands should



approximate 200,000 acres. A major assault on this formidable rate of work has been under way in the last few years. Present programme objectives indicate this target will be reached in the coming decade. This could coincide with the anticipated full use of the allowable cut of reasonably accessible conifer species.

*A. Artificial Regeneration* covers activities concerned with preparations for, and carrying out of, necessary planting or seeding projects on all Crown lands that are to be maintained in forest production. In addition, similar activities are conducted on Agreement Forest lands such as County, Conservation Authority, and Township forests. Also information is acquired on regeneration needs up to ten years ahead to ensure adequate seed collections and subsequent nursery stock production.

*B. Stand Improvement* includes such work as release of regeneration from undesirable brush or tree growth and culture of the forest to produce desirable material for specific markets. Cultural treatments include removal of cull trees, pruning to produce quality logs or veneer, and thinning to achieve maximum growth rates on selected individual stems. A major component of the Stand Improvement work is scarification for natural seeding from seed-trees, from the adjacent stand, or from cones scattered following cutting operations.

Stand Improvement operations apply to Agreement Forests as well as to Crown forest land.

*C. Special Projects*—in addition to the normal programs in Artificial Regeneration and Stand Improvement, some special and co-operative projects are conducted in these fields. Important among these are the use of inmates from the Department of Reform Institutions, the use of Junior Rangers, special efforts to use Indian labour, and winter work projects in areas of unemployment.

Special projects conducted in Silvicultural Operations also include testing of various seeding techniques.

Of interest here is the development, with active participation of the Research Branch, of special seeding equipment for helicopters to meter and evenly distribute given quantities of various species of seed per acre.

Similarly, studies to set the locale and production extent of future white pine growing areas are being conducted.

## SUMMARY OF AREA TREATED, 1963-64

<b>A. Artificial Regeneration</b>		
Planted .....	63,507	acres
Seeded .....	3,789	"
Sub-total .....	67,296	"
<b>B. Stand Improvement (Regular Program)</b>		
Various treatments (marking-not included)		
Crown .....	33,143	"
Agreement .....	7,312	"
Sub-total .....	40,455	"
<b>C. Special Projects</b>		
Crown .....	2,859	"
Agreement .....	496	"
Sub-total .....	3,355	"
<b>TOTAL</b> .....	111,106	"

Below, in tabular form, are details of the Artificial Regeneration and Stand Improvement program as well as some comments on Special Projects.

## Artificial Regeneration

### PLANTING

The number of trees planted on Crown lands and Agreement Forests is slightly in excess of those planted in 1962-63, continuing a steady increase over the last three years. Total planting for the past five years is as follows:—

1959-60.....	27,562,240
1960-61.....	35,630,390
1961-62.....	31,666,580
1962-63.....	33,958,450
1963-64.....	34,752,240

This planting program, divided into the two major categories—Crown lands and Agreement Forests—is shown below:—

### CROWN LANDS

1. Unalienated— 9,984,840 trees planted on 16,370 acres;
2. Licensed —20,676,930 trees planted on 41,448 acres;
3. Miscellaneous Crown land planting—  
92,405 trees planted for ornamental, research and other purposes on approximately 287 acres.

### AGREEMENT FORESTS

—3,998,065 trees planted on 5,402 acres.

An increasing amount of site preparation has been done prior to planting, using various types of equipment. In addition, approximately 2,960 acres have been prepared for planting or seeding to be carried out next year.

### Seeding

The favourable results from some of the earlier direct seeding projects have stimulated considerable interest in this method of artificial regeneration. The acreage sown this year was 3,789, which represents a 39.7 per cent increase over last year.

## Silvicultural Operations

Aerial seeding by helicopter accounted for 1,098 acres of this total.  
A tabular summary of planting and seeding projects follows:—

### DIRECT SEEDING — CROWN LANDS, 1963-64

Administrative District	Method	Ground Preparation	Acreage
Chapleau	Ground	Mechanical scarification	1,680
Geraldton	Ground	Mechanical scarification	90
	Aerial	Mechanical scarification and logging	326
	Aerial	Natural burn	75
North Bay	Ground	Mechanical scarification	664
Sault Ste. Marie	Aerial	Prescribed burn	52
Sioux Lookout	Aerial	Natural burn	170
Sudbury	Ground	Mechanical scarification	130
White River	Ground	Mechanical scarification	127
	Aerial	Mechanical scarification	475
TOTAL			3,789

### TREES PLANTED ON LANDS VESTED IN HER MAJESTY IN RIGHT OF ONTARIO

April 1, 1963 to March 31, 1964

Administrative District	Trees
Aylmer .....	208,345
Chapleau .....	3,401,050
Cochrane .....	1,830,000
Fort Frances .....	1,201,300
Geraldton .....	3,024,070
Gogama .....	3,818,975
Hespeler .....	18,500
Kapuskasing .....	1,443,500
Kemptville .....	58,040
Kenora .....	1,080,600
Lindsay .....	542,090
Maple .....	168,067
North Bay .....	849,000
Parry Sound .....	364,948
Pembroke .....	1,374,600
Port Arthur .....	2,015,000
Sault Ste. Marie .....	3,402,885
Sioux Lookout .....	250,400
Sudbury .....	1,759,337
Swastika .....	1,633,068
Tweed .....	1,356,050
White River .....	954,350
Sub-total, Crown Lands .....	30,754,175

# TREES PLANTED ON COUNTY, TOWNSHIP, CONSERVATION AUTHORITY AND OTHER LANDS MANAGED BY THE MINISTER

April 1, 1963 to March 31, 1964

County:	Trees	
Bruce .....	35,000	
Dufferin .....	8,000	
Grey .....	45,300	
Halton .....	1,800	
Huron .....	98,500	
Lanark .....	78,000	
Leeds and Grenville .....	185,000	
Middlesex .....	8,000	
Northumberland and Durham .....	147,500	
Ontario .....	8,000	
Prescott and Russell .....	405,365	
Renfrew .....	340,000	
Simcoe .....	540,200	
Stormont, Dundas and Glengarry .....	93,650	
Victoria .....	64,750	
Waterloo .....	4,500	
Wentworth .....	2,500	
York .....	6,800	
		2,072,865
<b>Township:</b>		
Marlborough .....	10,000	
Williamsburgh .....	100,000	
		110,000
<b>Conservation Authority:</b>		
Ausable River .....	135,550	
Big Creek .....	29,125	
Catfish Creek .....	46,000	
Central Lake Ontario .....	14,000	
Ganaraska River .....	127,500	
Grand Valley .....	101,600	
Metropolitan Toronto and Region .....	51,100	
Moirs River .....	307,000	
North Grey Region .....	95,325	
Sauble Valley .....	11,500	
Saugeen Valley .....	185,050	
South Nation River .....	16,000	
Upper Thames River .....	36,500	
		1,156,250
<b>Canada:</b>		
National Capital Commission .....	658,950	
		658,950
Sub-total—All Agreement Forests .....		3,998,065
TOTAL—Crown and Agreement Forests .....		34,752,240



# STAND IMPROVEMENT

## Crown Lands

During the 1963-64 fiscal year 132 stand improvement projects were carried out under the regular programme, involving a gross area of 33,143 acres. In addition, one regeneration survey, eight treatment surveys, and seven assessment projects were conducted. Also, under the regular programme, seed-trees on 10,814 acres were marked for natural regeneration, and 2,000 acres were marked for pulpwood cutting in tolerant hardwood areas.

The increasing use and continual improvement of scarifying equipment was one of the main highlights of the stand improvement programme during the 1963-64 fiscal year. In particular, the anchor chain-tractor pad and the spiked-barrel scarifiers—equipment devised by field personnel—have been found very effective for scarifying and cone scattering of jack pine cutovers.

### SUMMARY BY DISTRICTS OF STAND IMPROVEMENT PROJECTS

Including Junior Rangers' Work, 1963-64

District	Treatment	Area in Acres Regular Program	Junior Rangers*	Reform Institutions*	Total
Chapleau	Prescribed burning .....	5			5
	Aerial herbicide spraying .....	2,200			2,200
	Cleaning .....	860	35		895
	Assessment surveys (2) .....				
	Regeneration survey (1) .....				
	Sub-total .....	3,065	35		3,100
Cochrane	Modified cutting .....	136			136
	Cleaning .....		90		90
	Sub-total .....	136	90		226
Fort Frances	Scarifying and scattering cones .....	136			136
	Manual scarification .....		160		160
	Ground herbicide spraying .....	732	11		743
	Cleaning .....		20		20
	Sub-total .....	868	191		1,059
Geraldton	Scarifying and scattering cones .....	1,690			1,690
	Slash scattering .....		40		40
	Cleaning .....	2,000	18		2,018
	Assessment survey (1) .....				
	Sub-total .....	3,690	58		3,748
Gogama	Aerial herbicide spraying .....	1,050			1,050
	Cleaning .....	450	40		490
	Sub-total .....	1,500	40		1,540
Kapuskasing	Aerial herbicide spraying .....	595			595
	Cleaning .....	94	211		305
	Thinning .....		5		5
	Assessment surveys (2) .....				
	Sub-total .....	689	216		905

# SUMMARY BY DISTRICTS OF STAND IMPROVEMENT PROJECTS

## Including Junior Rangers' Work, 1963-64

District	Treatment	Area in Acres Regular Program	Junior Rangers*	Reform Institutions*	Total
Kemptville	Girdling .....	50			50
	Improvement cutting .....	24			24
	Sub-total .....	74			74
Kenora	Scarifying and scattering cones .....	174			174
	Ground herbicide spraying .....	32			32
	Cull tree removal .....	120			120
	Cleaning .....		49		49
	Sub-total .....	326	49		375
Lindsay	Modified cutting .....	184			184
	Scarifying for natural regeneration .....	1,100			1,100
	Thinning .....	844			844
	Cleaning .....	331			331
	Pruning .....	1,686			1,686
	Cull tree removal .....	2,708			2,708
	Deer yard improvement .....	400			400
	Sub-total .....	7,253			7,253
Maple	Modified cutting .....	4			4
	Cleaning .....	344			344
	Sub-total .....	348			348
North Bay	Modified cutting .....	443			443
	Scarifying for natural regeneration .....	701			701
	Aerial herbicide spraying .....	700			700
	Thinning .....	744			744
	Pruning .....	400			400
	Girdling .....	78			78
	Cleaning .....	180	7		187
	Sub-total .....	3,246	7		3,253
Parry Sound	Scarifying for natural regeneration .....	1,020			1,020
	Ground herbicide spraying .....	46			46
	Cleaning .....	215	280	18	513
	Pruning .....	65			65
	Improvement cutting .....	18			18
	Cull tree removal .....	2,037			2,037
	Deer yard improvement .....	189			189
	Sub-total .....	3,590	280	18	3,888
Pembroke	Girdling .....	294			294
	Deer yard improvement .....	3			3
	Cleaning .....	3	264		267
	Ground herbicide spraying .....		6		6
	Sub-total .....	300	270		570
Port Arthur	Modified cutting .....	121			121
	Scarifying and scattering cones .....	660			660
	Slash scattering .....		8		8
	Prescribed burning .....	17			17
	Cleaning .....		10		10
	Sub-total .....	798	18		816

# SUMMARY BY DISTRICTS OF STAND IMPROVEMENT PROJECTS

Including Junior Rangers' Work, 1963-64

District	Treatment	Area in Regular Program	Acres Junior Rangers*	Reform Institutions*	Total
Sault Ste. Marie	Scarifying for natural regeneration .....	771			771
	Prescribed burning .....	75			75
	Cleaning .....	806	975	7	1,788
	Thinning .....	112			112
	Pruning .....	326	84	240	650
	Girdling .....	98			98
	Cull tree removal .....	732			732
	Deer yard improvement .....	37			37
	Treatment surveys (7)				
	Assessment survey (1)				
	Sub-total .....	2,957	1,059	247	4,263
Sioux Lookout	Scarifying and scattering cones .....	435			435
	Thinning .....		3		3
	Sub-total .....	435	3		438
Sudbury	Cleaning .....	1,368	3	200	1,571
	Deer yard improvement .....	35			35
	Sub-total .....	1,403	3	200	1,606
Swastika	Scarifying and scattering cones .....	108			108
	Aerial herbicide spraying .....	793			793
	Cleaning .....		75		75
	Sub-total .....	901	75		976
Tweed	Modified cutting .....	35			35
	Cleaning .....	628			628
	Thinning .....	15			15
	Pruning .....	240			240
	Cutting .....	186			186
	Cull tree removal .....	280			280
	Treatment survey (1)				
	Sub-total .....	1,384			1,384
White River	Thinning .....	180			180
	Assessment survey (1)				
	Sub-total .....	180			180
	TOTAL .....	33,143	2,394	465	36,002
	Regeneration surveys .....	1			
	Treatment surveys .....	8			
	Assessment surveys .....	7			

\* The work listed under these headings is discussed briefly under  
C—Special Projects.

## SUMMARY BY TREATMENTS ALL DISTRICTS

Treatment	Area in Acres Regular Program	Junior Rangers*	Reform Institutions*	Total
<b>Site preparation for natural regeneration</b>				
Scarification (seed-trees) .....	3,592			3,592
Scarification (cone scatter) .....	3,203			3,203
Slash scattering .....		48		48
Manual scarification .....		160		160
Prescribed burning .....	97			97
<b>Brush Control</b>				
Aerial spraying .....	5,338			5,338
Ground spraying .....	810	17		827
<b>Modified cutting</b> .....	923			923
<b>Tending</b>				
Cleaning .....	7,279	2,077	225	9,581
Thinning .....	1,895	8		1,903
Pruning .....	2,717	84	240	3,041
Improvement cutting .....	42			42
Cutting .....	186			186
Cull tree removal .....	5,877			5,877
Girdling .....	520			520
<b>Deer yard improvement</b> .....	664			664
<b>TOTAL</b> .....	33,143	2,394	465	36,002

## AGREEMENT FORESTS

Agreement Forests are those lands that are owned by Counties, Townships or Conservation Authorities and managed by the Department. Reforestation on such land was initiated in 1922. During 1963-64, trees planted in 1924 were sold on the stump for piling for over \$7 apiece; also in Simcoe County Forest 4,632 construction poles were sold for over \$14,000.

The attitude by loggers, jobbers and contractors has also changed in regard to plantations. Until recently the Department had the wood cut by piece-workers. At present the bulk of the wood is sold on a stumpage basis; that is, the buyer pays so much per cord, or per 1,000 board feet, or a lump sum for designated trees.

In a co-operative project between the Ontario Department of Lands and Forests and the Forest Products Branch of the Canada Department of Forestry, it has been found that fifty-year-old red pine, twelve inches in diameter, will produce fifty per cent clear veneer from trees which were pruned when twenty years old and approximately four inches in diameter.

Over \$100,000 in revenue was obtained from selling products from Agreement Forests, and over half of this was from plantations.

In order to increase productivity of the forest, to provide local employment, and to harvest usable products, the following activities were carried out in Agreement Forests in various districts:—



SUMMARY OF TREATMENTS BY DISTRICTS  
WHERE A PRODUCT RESULTED FROM TREATMENTS, 1963-64

District	Treatment	Acres
Aylmer	Plantation thinning .....	5
	Improvement cutting .....	75
	Salvage cutting .....	5
	Harvest cutting .....	347
	Display tree harvest .....	27
	Sub-total .....	459
Hespeler	Plantation and natural stand thinning .....	27
	Improvement cutting .....	3
	Salvage cutting .....	4
	Harvest cutting .....	214
	Sub-total .....	248
Kemptville	Plantation thinning .....	129
	Improvement cutting .....	185
	Salvage cutting .....	20
	Harvest cutting .....	20
	Stand conversion .....	39
	Sub-total .....	393
Lindsay	Plantation thinning .....	144
	Improvement cutting .....	3
	Harvest cutting .....	100
	Display tree harvest .....	50
	Sub-total .....	297
Maple	Plantation thinning .....	487
	Improvement cutting .....	87
	Salvage cutting .....	112
	Sub-total .....	686
Total area on which a product was harvested .....		2,083

SUMMARY OF TREATMENTS BY DISTRICTS  
NO PRODUCT HARVESTED, 1963-64

District	Treatment	Area in Acres		Total
		Regular Program	Reform Institutions	
Aylmer	Site preparation for planting .....	48		48
	Cleaning .....	35		35
	Girdling cull trees .....	177		177
	Sub-total .....	260		260
Hespeler	Cleaning .....	255		255
	Clipping damaged leaders .....	120		120
	Pruning .....	148		148
	Girdling cull trees .....	1,190		1,190
	Brush spraying .....	41		41
	Weed control .....	130		130
	Sub-total .....	1,884		1,884
Kemptville	Cleaning .....	62		62
	Spraying brush .....	166		166
	Pruning .....	151		151
	Girdling cull trees .....	337		337
	Sub-total .....	716		716
Lindsay	Site preparation for planting .....	28		28
	Cleaning .....		76	76
	Clipping damaged leaders .....	40		40
	Pruning .....	702	10	712
	Thinning .....		60	60
	Girdling cull trees .....	451		451
	Sub-total .....	1,221	146	1,367
Maple	Cleaning .....	57	87	144
	Clipping damaged leaders .....	30		30
	Thinning .....		35	35
	Pruning .....	1,061	228	1,289
	Sub-total .....	1,148	350	1,498
TOTAL AREA—no product harvested .....		5,229	496	5,725
GRAND TOTAL AREA .....		7,312	496	7,808

SUMMARY BY TREATMENTS  
ALL DISTRICTS, 1963-64

Treatment	Area in Acres		Total
	Regular Program	Reform Institutions	
Where Product Harvested			
Plantation thinning .....	792		792
Improvement cutting .....	353		353
Salvage cutting .....	141		141
Harvest cutting .....	681		681
Display tree harvest .....	77		77
Stand conversion .....	39		39
Sub-total .....	2,083		2,083
No Product Harvested			
Site preparation for planting .....	76		76
Cleaning .....	409	163	572
Thinning .....		95	95
Girdling cull trees .....	2,155		2,155
Clipping damaged leaders .....	190		190
Pruning .....	2,062	238	2,300
Brush spraying .....	207		207
Weed control .....	130		130
Sub-total .....	5,229	496	5,725
TOTAL .....	7,312	496	7,808

NURSERY FORESTS, 1963-64

Stand improvement work was carried out at three of the four southern nursery forests during 1963-64. This work is mainly done during the winter months, when activity in nursery stock production is at a minimum.

SUMMARY BY TREATMENTS

Treatment	Area in Acres		Kemptville G. Howard Ferguson Nursery	Total Acres Treated
	Lake Erie St. Williams Nursery	Lake Simcoe Midhurst Nursery		
Pruning .....	17	30		47
Improvement cutting .....	114	5	5	124
Thinning .....	38	32		70
Site preparation .....	2			2
Marking .....	31			31
Girdling .....	258			258
	460	67	5	532

## SPECIAL PROJECTS

The use of inmate labour from the Department of Reform Institutions and the Canada Department of Justice on various silvicultural projects has been increasing. These projects involved low-priority work for which no funds would normally be available.

Inmates carried out stand improvement on 465 acres of Crown lands in the Sault Ste. Marie, Sudbury, and Parry Sound districts.

On Agreement Forests they carried out stand improvement work on 496 acres in the Maple and Lindsay districts. The men worked out of Camp Hendrie and Camp Hillsdale, near Barrie; from Cold Springs Camp, a satellite camp of the Bowmanville Boys' Training School; and from Beaver Creek Camp near Bracebridge, operated by the Canada Department of Justice.

Junior Rangers were used in 26 stand improvement projects on Crown lands, in which approximately 2,394 acres received improvement treatment. In a further eight projects, Junior Rangers assisted in aerial spraying, surveys, line cutting, and the collection of mensurational data.

About a quarter of a million trees were planted on summer planting operations by Junior Rangers.

Special effort has been made to recruit Indians for silvicultural work. In some areas they make up sizeable portion of the work force.

Some projects, such as thinnings to increase the growth rate on desirable stems, have been conducted in the off-season to reduce the unemployment in certain areas.

## Forest Management Planning, March 31, 1964

The revision of management plans for Crown units has followed closely the reinventory of Crown lands, now in progress.

Within 18 months of the completion of the reinventory of a management unit, the revised management plan is prepared by the district staff. The plan is drawn for a 20-year period and will be revised at 20-year intervals thereafter, on the basis of rephotography and a new forest inventory at that time and on experience gained in the past periods. The basic planning considers management objectives and the means of their attainment over a period of a hundred years, more or less. This planning is based on such considerations as the arrangement of species and age-classes on the productive forest land, a permanent road network, division of the forest into accessible compartments, the rotations of the working groups, etc. This planning constitutes a framework into which 10-year operating plans are fitted as time passes. An operating plan shows, in detail, the stands to be cut, regenerated, and tended, the roads to be built, and the improvements to be made.

This type of planning is standard for Crown management units and Agreement Forests for which plans are prepared by Department staff. The main essentials of planning are contained in the Manual of Management Plan Requirements, as a guide for the staffs of the larger licensees in the preparation of management plans for Company management units.

There are 207 management units in the Province, each operating under a plan of its own. This number is subject to change from year to year due to abandonment and acquisition of licences, and to division and consolidation of management units at the time of plan revision.



## MANAGEMENT PLANS

1. *Crown Management Units*—Plans prepared by Department staff. There are 81 management units with 77 management plans in force as follows:—

1—Approved standard management plan;

76—Approved initial management plans;

4—Units not under management plan.

In the districts of North Bay, Pembroke, Sault Ste. Marie, Sudbury, and Swastika, standard plans have been received for three units and are being processed for approval, and work is proceeding on the plans for nineteen other units.

2. *Company Management Units*—Plans prepared by licensee. There are 75 management units with 68 management plans in force as follows:—

55—Management plans approved;

13—New plans received being processed for approval;

7—Units have management plans in the process of revision.

3. *Agreement Forest Units*—Plans prepared by Department staff. There are 46 management units with an approximate area of 245 square miles. The status of management planning on these units is as follows:—

1—Standard management plan completed;

19—Standard management plans being prepared;

14—Units have the inventory completed;

12—Units are being inventoried.

4. *Nursery Forest Units*—Plans prepared by Department staff. These five small management units are adjacent to the tree nurseries of Department forest stations. The inventories for these units have been completed, and during the fiscal year 1964-65 standard management plans will be prepared.

Other work during the fiscal year was as follows:—

1. Co-operation in programming the Timber Certificate Course at the Forest Ranger School, and lecturing on management procedures.
2. A four-hour lecture on implementation of a management plan given at the Forest Ranger School within the general course curriculum.
3. Revision of the Manual of Management Plan Requirements preparatory to publication as Silviculture Series Bulletin No. 3.
4. Close liaison and co-operation with Fish and Wildlife Branch in the improvement of wildlife habitat by timber operations.
5. Examination of forest access road proposals regarding their conformity to the management plan.

## TIMBER SECTION

The volume of wood cut from Crown land during the year ending March 31, 1963, was approximately 345.8 million cubic feet, an increase of 20.2 million cubic feet from the year before. This increase represents an increase in stumpage revenue of more than \$861,000 and reflects a satisfactory recovery from the slight drop in production and value experienced during the previous year.

In addition, the trend to increased utilization of saw-mill and veneer mill residues continued in 1963 with 40 mills producing the pulp chip equivalent of 264,815 round wood cords. This represents an increase of 9.1 per cent over the previous year and already there are indications that five more mills will be installing chippers in 1964.

## MARKET STUDIES

During 1963 the program of studying the forest industry potential of a number of Ontario locations was continued. Particular emphasis was placed on the increased utilization of the poplar resource in view of the rapid rise in the importance of Ontario's poplar plywood and particle board industries.

At the request of the Department of Economics and Development, an active role was assumed by this section in promoting the increased export of manufactured forest products from Ontario.

## FOREST ACCESS ROADS — CONSTRUCTED UNDER FEDERAL-PROVINCIAL AGREEMENT

Under this Agreement, the costs of constructing forest access roads, for the protection and management of Crown forest lands and the transportation of forest products from those lands, were shared by the Federal and Provincial governments. During the fiscal year ending March 31, 1964, 57½ miles of new construction were completed and 46½ miles of existing roads were improved. The location of these roads is as follows:—

District	Management Unit	Name of Road	New Construction Miles	Existing Road Improved Miles
Chapleau	Abitibi	Busby-Calais	3	
	Abitibi Missinaibi	Racine-Floranna		7
	Abitibi	Wrong Lake		9
Cochrane	Cochrane	*Kennedy		7
Fort Frances	Rainy Lake	*Wassaw-Boffin	1	1
Gogama	Pineland	Jack-Carter	7½	
Kapuskasing	Kapuskasing	*McCowan	Survey	
	Northern	*Shannon	10½	
	Dryden	Temple	6	
Kenora	Gooderham	Hindon	½	
Lindsay	Bracebridge	Oakley	3	
Parry Sound	Petawawa	*Wylie-Bronson		8
Pembroke	Huron Forest Products	Aubinadong	Survey	
Sault Ste. Marie	Huron Forest Products	Flag Lake	5	
	Kirkwood	Franklin Lake		½
	Huron Forest Products	Portelance Lake	2	
	Blind River	Scarfe		4
Sudbury	Trout Lake	Cherriman	4	1
	Trout Lake	Hoskin	1	1
	Englehart	Davidson	2	
Swastika	Englehart	Gross		6
	New Liskeard	Ingram		2
	Kirkland Lake	Pearl Beach	1	
Tweed	Madawaska	Black Donald	1	
	Madawaska	Green Lake	3	
	Madawaska	Herschel	7	
			57½	46½

\*Capital Fund Logging Roads, summarized below.

Under the Capital Road program for the fiscal year 1963-64, 11½ miles of new road were constructed and 16 miles of existing road were improved into areas of unalienated Crown lands containing mature and over-mature timber.

Total miles of road constructed to date under this fund since 1955-56 were:—

Cochrane	—	Cochrane Management Unit	7	miles
Fort Frances	—	Rainy Lake Management Unit	7½	"
Kapuskasing	—	Hearst Management Unit	14½	"
		Northern Management Unit	10½	"
Kenora	—	Kenora Management Unit	11	"
Pembroke	—	Petawawa Management Unit	84	"
Swastika	—	Englehart Management Unit	56	"
			190½	"
Kenora	—	Jones Road (part of cost)	22	"
			212½	"

Note: Funds for the maintenance of forest access roads are provided by the Lands and Surveys Branch.

To date all expenditures made on road construction under the terms of the Capital Road Fund have been paid back to the Fund from additional stumpage charges collected from the forest operators using these roads.

#### AGREEMENT FOREST TIMBER SALES, 1963-64

During 1963-64, the value of timber and forest products sold from County, Township and Conservation Authority Forests totalled \$109,914.72, an increase of 20 per cent over the previous year. The sale of pulpwood produced as plantation thinnings, accounted for a high proportion of this amount.

#### CROWN TIMBER SALES 1963-64

Crown Timber Sales C.T.A.2	81.04	square miles
*Crown Timber Sales C.T.A.3	18,484.80	" "
Crown Timber Sales C.T.A.5	6.60	" "

\*This area represents, for the most part, larger licenses expiring which were issued under sections 2 and 3 of The Crown Timber Act.

#### ABANDONMENTS

In the fiscal year 1963-64, licensed areas in the amount of 17,403.12 square miles were abandoned.

#### SUMMARY OF AREA UNDER CROWN TIMBER LICENCE

Classified In Accordance With The Crown Timber Act  
as of March 31, 1964

Year	Area in square miles		Licences under Section 5	Total Area in Square Miles
	Licences under Section 2	Licences under Section 3		
1959-60	4,206.22	99,818.60	186.98	104,211.80
1960-61	3,647.71	99,103.39	137.79	102,888.89
1961-62	3,563.07	99,347.87	154.26	103,065.20
1962-63	3,102.08	97,830.82	152.36	101,085.26
1963-64	2,556.89	99,679.49	18.20	102,254.58





A forester evaluates the quality of saw logs in an Ontario lumber mill.



# SUMMARY OF VOLUME AND VALUE OF WOOD CUT BY SPECIES 1962-63

Species	Cubic Feet	Stumpage Value
<b>Softwood</b>		
Balsam .....	11,173,692.29	\$ 238,956.67
Cedar .....	105,288.22	4,894.48
Hemlock .....	1,840,754.44	51,735.79
Pine, Jack .....	78,484,737.95	2,182,295.13
Pine, Red .....	6,029,217.52	333,445.99
Pine, White .....	21,929,958.74	1,186,136.31
Spruce .....	182,327,347.15	6,819,389.16
Tamarack .....	38,726.97	1,176.60
Christmas Trees .....	566.00	95.65
Fuelwood .....	827,437.60	5,364.32
	302,757,726.88	\$10,823,490.10
<b>Hardwood</b>		
Ash .....	99,599.84	\$ 2,835.83
Bass-wood .....	434,239.91	23,365.91
Beech .....	277,686.11	5,056.92
Birch, White .....	2,295,135.22	37,884.14
Birch, Yellow .....	8,822,124.88	664,703.80
Butternut .....	1,934.95	72.47
Cherry .....	18,140.75	629.15
Elm .....	285,619.98	9,537.49
Maple .....	6,536,731.12	258,989.89
Oak .....	276,047.48	12,539.44
Poplar .....	22,907,356.50	209,055.75
Fuelwood .....	1,137,287.25	8,552.08
	43,091,903.99	\$ 1,233,222.87
TOTAL all species .....	345,849,630.87	\$12,056,712.97

Note: Value of export levy not included in above figures.

## LICENSING OF MILLS

During 1963 the trend to fewer but larger sawmills which has been evident since the early 1950s continued. The mills licensed during the year under The Crown Timber Act were as follows:—

Sawmills Daily Capacity in excess of 50,000 fbm	34
Daily Capacity 10,000 fbm to 50,000 fbm	112
Daily Capacity less than 10,000 fbm	723
Specialty Mills (lath, pickets, ties, shingles, staves, headings and hoops)	83
Veneer Mills	23
Pulp Mills	27

## SCALING

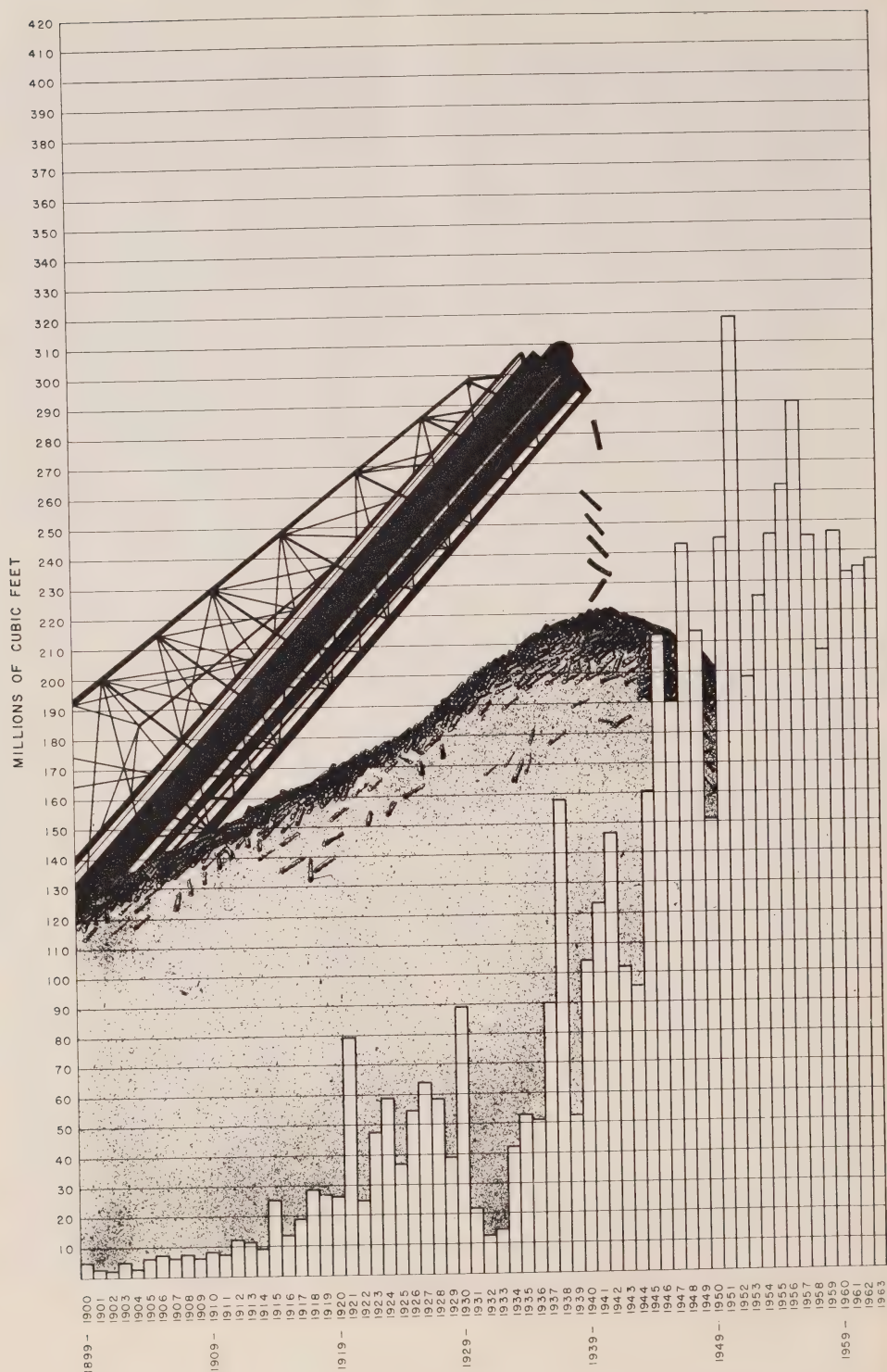
Scaling examinations during the past year were held at the following locations on the dates noted:—

Forest Ranger School, Dorset, Ontario	April	11th, 1963
Forest Ranger School, Dorset, Ontario	May	17th, 1963
Nym Lake, Atikokan, Ontario	September	27th, 1963

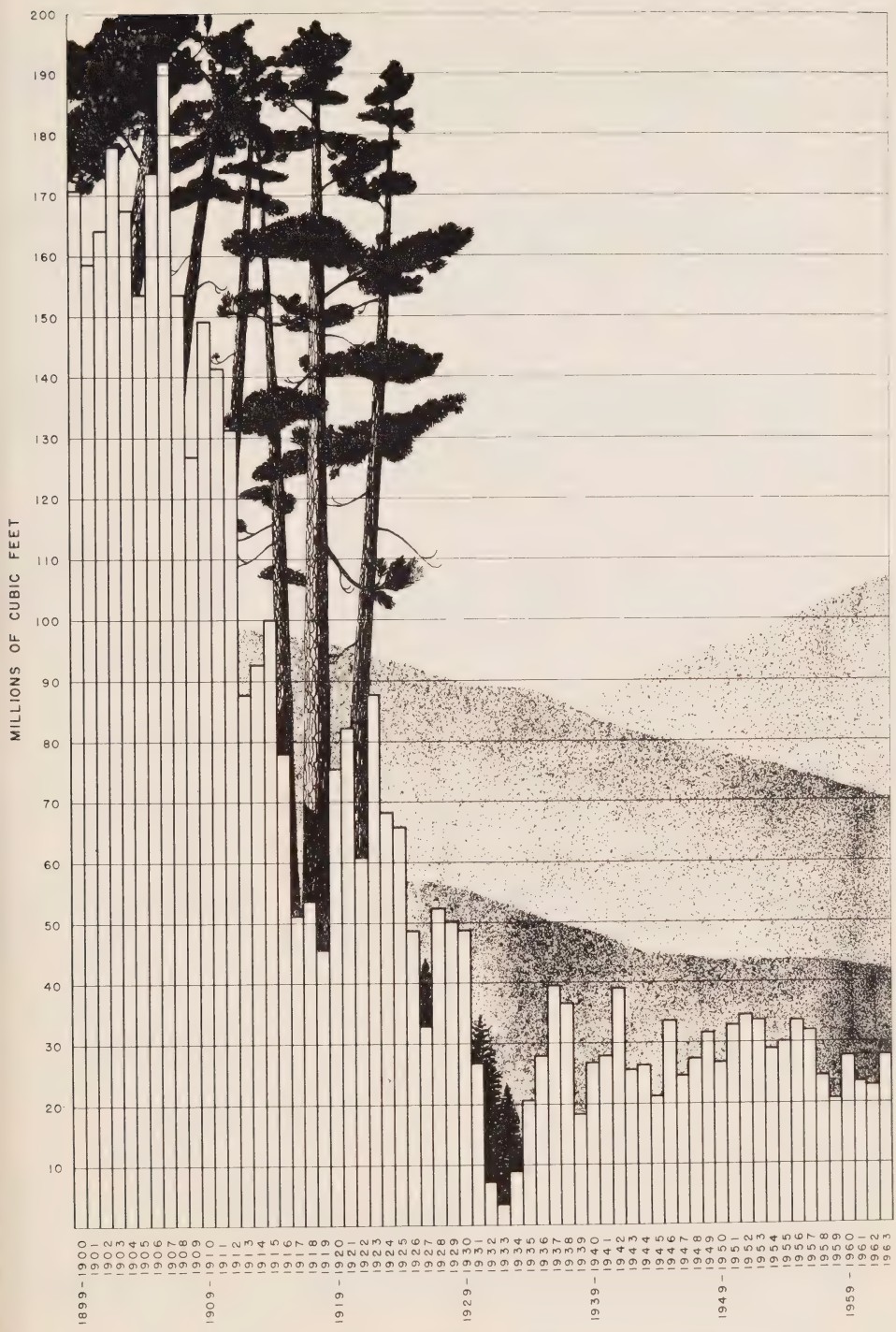
## NUMBER OF SCALER'S LICENCES ISSUED

To scale All Classes of Timber.....	1,393
To scale Pulpwood only.....	200

# PULPWOOD TIMBER—ALL SPECIES CUT ON CROWN LAND



# WHITE AND RED PINE SAWLOG TIMBER CUT ON CROWN LANDS





# SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	5,035		264,675	49,471.94	1,323.56	\$ 805.65	\$ 2,129.21
Balsam	44,457		898,229	167,893.26	3,593.01	3,009.70	6,602.71
Bass-wood	35,685		2,182,850	408,009.35	10,914.42	12,140.38	23,054.80
Beech	15,452		961,880	179,790.65	1,442.83	2,749.70	4,192.53
Birch, white	56,557		2,699,196	498,915.14	4,003.86	9,526.57	13,530.43
Birch, yellow	576,081		47,183,772	8,819,396.64	235,919.22	428,737.83	664,657.05
Butternut	132		10,352	1,934.95	15.53	56.94	72.47
Cedar	8,041		223,944	41,858.70	671.84	700.17	1,372.01
Cherry	1,374		97,053	18,140.75	485.37	143.78	629.15
Elm	13,309		1,239,533	231,688.42	6,197.89	2,810.84	9,008.73
Hemlock	142,239		9,734,788	1,819,586.54	29,204.42	21,655.87	50,860.29
Maple	407,770		32,493,161	6,073,488.04	162,466.18	91,120.91	253,587.09
Oak	23,084		1,419,843	265,391.22	7,099.44	5,333.81	12,433.25
Pine, jack	2,213,690		54,428,525	10,173,556.06	217,714.09	44,075.06	261,789.15
Pine, red	398,518		26,400,540	4,934,673.66	132,002.81	124,372.44	256,375.25
Pine, white	1,227,489		112,117,091	20,956,465.61	560,585.95	575,592.19	1,136,178.14
Poplar	202,539		7,690,039	1,437,390.48	11,535.03	10,405.66	21,940.69
Spruce	1,658,894		40,608,775	7,590,425.20	162,435.15	114,368.17	276,803.32
Tamarack	2,804		54,237	10,137.74	162.71	382.61	545.32
Total Ontario Scale	7,033,150		340,678,447	63,678,214.35	1,547,773.31	1,447,988.28	2,995,761.59
<b>Doyle Rule</b>							
Pine, red	149		6,160	1,540.00	30.80	23.37	54.17
Pine, white	151		10,297	2,574.25	51.49	51.49	102.98
Total Doyle Rule	300		16,457	4,114.25	82.29	74.86	157.15
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	54,567		271,943.61	271,943.61	4,485.69	4,847.56	9,333.25
Bass-wood	56		309.81	309.81	8.05	17.67	25.72
Beech	5		43.46	43.46	0.39	1.13	1.52
Birch, white	49,929		341,349.24	341,349.24	2,041.60	5,603.61	7,645.21
Birch, yellow	16		141.64	141.64	4.11	9.20	13.31



Cedar	28,624	10,984.89	181.07	115.60	296.67
Elm	4	39.01	1.17	1.21	2.38
Maple	24	449.05	13.02	20.66	33.68
Oak	36	205.51	5.75	8.22	13.97
Pine, jack	3,328,967	19,809,211.25	456,054.41	219,137.46	675,191.87
Pine, red	59,743	488,800.20	16,130.37	7,345.18	23,475.55
Pine, white	58,612	662,585.56	21,846.66	17,359.34	39,206.00
Poplar	404,816	2,730,635.34	16,189.52	11,267.92	27,457.44
Spruce	2,688,566	14,001,762.05	461,521.62	111,819.63	573,341.25
Tamarack	462	2,622.45	43.27	78.18	121.45
Total saw-logs (cubic measure)	6,674,427	38,321,083.07	978,526.70	377,632.57	1,356,159.27
<b>Boom Timber, Piling, Poles</b>					
<b>Boom and Dimension Timber</b>					
Balsam	172	1,429.35	43.48	21.71	65.19
Birch, white	2,099	11,033.94	68.46	153.89	222.35
Birch, yellow	4	106.30	5.39		5.39
Cedar	1,245	16,625.92	311.72	81.19	392.91
Hemlock	34	1,282.14	76.02	73.14	149.16
Pine, jack	5,020	19,868.84	627.71	204.28	831.99
Pine, red	1,202	26,587.11	1,374.26	282.74	1,657.00
Pine, white	2,266	40,522.04	1,888.30	1,097.25	2,985.55
Poplar	20	697.52	39.50		39.50
Spruce	11,914	223,527.04	10,021.57	1,092.01	11,113.58
<b>Piling</b>					
Pine, jack	371	4,994.45	125.79	16.59	142.38
Pine, red	2	42.57	2.13	1.28	3.41
Spruce	1,130	9,958.93	353.94	34.91	388.85
<b>Poles</b>					
Balsam	131	864.12	29.16	18.40	47.56
Birch, white	24	127.20	3.71	1.29	5.00
Cedar	1,021	8,039.31	327.34	212.06	539.40
Hemlock	243	6,757.51	359.65	24.71	384.36
Maple	4	49.78	1.91	0.50	2.41
Pine, jack	32,703	436,690.99	18,074.00	8,248.86	26,322.86
Pine, red	18,898	405,483.83	19,744.94	25,335.20	45,080.14
Pine, white	246	7,742.73	411.98	120.09	532.07
Poplar	38	623.71	27.57		27.57
Spruce	3,775	44,088.54	1,922.71	884.67	2,807.38
Total boom timber, piling, poles	82,562	1,267,143.87	55,841.24	37,904.77	93,746.01
Total cubic foot measure	6,756,989	39,588,226.94	1,034,367.94	415,537.34	1,449,905.28

# SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
					\$	\$	\$
<b>Cordage</b>							
Pulpwood							
Ash		589.74		50,127.90	294.88	411.74	706.62
Balsam		126,253.67		10,731,561.95	176,700.44	46,207.52	222,907.96
Balsam (export levy)	(	887.94)		( 75,474.90)		887.94	887.94
Bass-wood		304.95		25,920.75	152.48	132.91	285.39
Beech		1,151.20		97,852.00	575.60	287.27	862.87
Birch, white		16,076.28		1,366,483.80	8,038.22	7,533.86	15,572.08
Birch, yellow		29.18		2,480.30	14.59	13.46	28.05
Elm		634.03		53,892.55	317.02	209.36	526.38
Hemlock		154.45		13,128.25	216.23	125.75	341.98
Maple		5,444.05		462,744.25	2,722.03	2,644.68	5,366.71
Oak		122.95		10,450.75	61.48	30.74	92.22
Pine, jack		553,872.52		47,079,164.20	1,104,260.29	84,110.09	1,188,370.38
Pine, jack (export levy)	(	37,606.45)		( 3,196,548.25)		18,803.30	18,803.30
Pine, red		2,024.59		172,090.15	2,834.43	3,966.04	6,800.47
Pine, white		3,059.63		260,068.55	4,283.48	2,848.09	7,131.57
Poplar		197,485.79		16,786,292.15	98,743.18	37,759.86	136,503.04
Poplar (export levy)	(	7,713.35)		( 655,634.75)		771.34	771.34
Spruce		1,885,730.88		160,287,124.80	5,265,184.55	682,553.25	5,947,737.80
Spruce (export levy)	(	13,999.50)		( 1,189,957.50)		13,999.50	13,999.50
Tamarack		281.22		23,903.70	393.71	39.08	432.79
Total pulpwood		2,793,215.13		237,423,286.05	6,664,792.61	903,335.78	7,568,128.39
<b>Fuelwood</b>							
Hardwood		13,379.85		1,137,287.25	6,689.98	1,862.10	8,552.08
Softwood		9,734.56		827,437.60	4,867.30	497.02	5,364.32
Total fuelwood		23,114.41		1,964,724.85	11,557.28	2,359.12	13,916.40
<b>Bolts</b>							
Birch, white		908.54		77,225.90	454.41	454.66	909.07
Birch, white (export levy)	(	2.47)		( 209.95)		0.25	0.25
Poplar		22,953.38		1,951,037.30	11,491.70	11,555.81	23,047.51
Poplar (export levy)	(	2,812.85)		( 239,092.25)		281.29	281.29
Total bolts		23,861.92		2,028,263.20	11,946.11	12,292.01	24,238.12
Total cordage		2,840,191.46		241,416,274.10	6,688,296.00	917,986.91	7,606,282.91

<b>Miscellaneous</b>									
<b>Posts — lin. ft.</b>									
Cedar	22,835	185,196	27,779.40	1,851.96	441.53	2,293.49			
Pine, jack	787	7,426	1,113.90	74.26	50.70	124.96			
Spruce	1,081	9,410	1,411.50	94.10	83.20	177.30			
Tamarack	50	400	60.00	4.00	4.00	8.00			
<b>Mining Timber — cu. ft.</b>									
Pine, jack	102,610	314,303.31	314,303.31	7,390.80	4,777.57	12,138.37			
Poplar	2,000	680.00	680.00	20.00	20.00	40.00			
Spruce	96,945	169,033.32	169,033.32	6,382.95	635.88	7,018.83			
Tamarack	889	2,003.08	2,003.08	66.14	2.90	69.04			
<b>Tie Blocks — cu. ft.</b>									
Pine, jack	145,263	645,834.95	645,834.95	15,190.91	2,162.26	17,353.17			
Spruce	5	15.77	15.77	0.53	0.32	0.85			
Christmas trees	1,132		566.00	95.65		95.65			
<b>Total miscellaneous</b>									
Total Ontario Scale	373,597		1,162,801.23	31,171.30	8,178.36	39,349.66			
Total Doyle Rule	7,033,150	340,678,447	63,678,214.35	1,547,773.31	1,447,988.28	2,995,761.59			
Total cubic foot measure	300	16,457	4,114.25	82.29	74.86	157.15			
Total cordage	6,756,989	39,588,226.94	39,588,226.94	1,034,367.94	415,537.34	1,449,905.28			
		2,840,191.46	241,416,274.10	6,688,296.00	917,986.91	7,606,282.91			
Grand total	14,164,036	2,840,191.46	345,849,630.87	9,301,690.84	2,789,765.75	12,091,456.59			

<b>Number of permits issued and included in above—</b>		4,664	907,191.76
Conversion factor—Ontario Scale to cubic foot measure—		5.35	
Conversion factor—cordage to cubic foot measure—		85	

# CHAPLEAU

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Pine, jack	120,615		3,912,792	731,362.99	15,651.17	1,956.40	17,607.57
Pine, red	5,669		690,500	129,065.42	3,452.51		6,507.77
Pine, white	52,625		4,927,880	921,099.06	24,639.41	22,160.07	46,799.48
Spruce	7,270		283,465	52,984.11	1,133.86	594.62	1,728.48
Total Ontario Scale	186,179		9,814,637	1,834,511.58	44,876.95	27,766.35	72,643.30
<b>Cubic Foot Measure</b>							
<b>Sawlogs</b>							
Balsam	9,631		46,017.99	46,017.99	759.12	353.41	1,112.53
Birch, white	17,950		101,775.91	101,775.91	610.65	176.57	787.22
Pine, jack	1,141,071		6,202,410.81	6,202,410.81	136,259.01	23,116.39	159,375.40
Pine, red	521		8,720.63	8,720.63	287.78	235.46	523.24
Pine, white	2,973		56,133.22	56,133.22	1,852.40	1,515.60	3,368.00
Poplar	117,228		625,223.27	625,223.27	3,751.33	2,899.79	6,651.12
Spruce	530,664		2,531,785.69	2,531,785.69	83,185.07	16,285.60	99,470.67
Total sawlogs	1,820,038		9,572,067.52	9,572,067.52	226,705.36	44,582.82	271,288.18
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Pine, jack	114		3,342.93	3,342.93	184.08		184.08
Pine, red	17		659.84	659.84	38.62	6.59	45.21
Spruce	116		2,963.04	2,963.04	152.92	27.27	180.19
<b>Poles</b>							
Spruce	147		3,808.48	3,808.48	203.82	114.25	318.07
Total boom timber, piling, poles	394		10,774.29	10,774.29	579.44	148.11	727.55
Total cubic foot measure	1,820,432		9,582,841.81	9,582,841.81	227,284.80	44,730.93	272,015.73



# Cordage

## Pulpwood

Balsam	680.28	57,823.80	952.39	16.12	998.51
Pine, jack	55,782.17	4,741,484.45	109,686.18	762.59	110,448.77
Poplar	11,479.72	975,776.20	5,739.86		5,739.86
Spruce	30,690.95	2,608,730.75	85,919.78	2,122.25	88,042.03
Tamarack	0.32	27.20	0.45	0.03	0.48
Total pulpwood	98,633.44	8,383,842.40	202,298.66	2,900.99	205,199.65

## Fuelwood

Hardwood	744.14	63,251.90	372.07	372.07	744.14
Softwood	340.69	28,958.65	170.34	236.35	406.69
Total fuelwood	1,084.83	92,210.55	542.41	608.42	1,150.83
Total cordage	99,718.27	8,476,052.95	202,841.07	3,509.41	206,350.48
Total Ontario scale	186,179	1,834,511.58	44,876.95	27,766.35	72,643.30
Total cubic foot measure	1,820,432	9,582,841.81	227,284.80	44,730.93	272,015.73
Grand total	2,006,611	19,893,406.34	475,002.82	76,006.69	551,009.51

Number of permits issued and included in above—

127

Conversion factor—Ontario Scale to cubic foot measure—

5.35

Conversion factor—cordage to cubic foot measure—

85

6,735.95

# COCHRANE

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Balsam	19		350	65.42	1.40	1.05	2.45
Birch, white	1,275		45,234	8,454.95	67.85	30.08	97.93
Pine, jack	354,763		6,221,419	1,162,882.05	24,885.68	3,603.27	28,488.95
Pine, red	28		3,467	648.04	17.34	16.47	33.81
Pine, white	3,237		401,370	75,022.43	2,006.86	1,906.51	3,913.37
Poplar	18,318		425,791	79,587.10	638.68	69.92	708.60
Spruce	142,582		1,903,621	355,817.01	7,614.49	5,695.43	13,309.92
Total Ontario Scale	520,222		9,001,252	1,682,447.00	35,232.30	11,322.73	46,555.03
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	6,881		40,560.10	40,560.10	699.24	27.99	697.23
Birch, white	90		598.96	598.96	3.61	4.64	8.25
Cedar	193		2,205.01	2,205.01	36.33	6.97	43.30
Pine, jack	298,057		1,722,933.90	1,722,933.90	40,488.95	21,532.76	62,021.71
Pine, white	10		156.32	156.32	5.16	4.22	9.38
Poplar	16,116		125,057.57	125,057.57	749.06	693.08	1,442.14
Spruce	191,286		1,114,413.81	1,114,413.81	36,775.65	8,066.74	44,842.39
Total Saw-logs	512,633		3,005,925.67	3,005,925.67	78,728.00	30,336.40	109,064.40
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Spruce	698		22,227.92	22,227.92	1,036.78	37.41	1,074.19
<b>Piling</b>							
Pine, jack	294		4,321.07	4,321.07	101.68	5.08	106.76
<b>Poles</b>							
Pine, jack	256		3,599.40	3,599.40	147.58	28.66	176.24
Spruce	241		4,431.50	4,431.50	168.84	44.32	213.16
Total boom timber, piling, poles	1,489		34,579.89	34,579.89	1,454.88	115.47	1,570.35
Total cubic foot measure	514,122		3,040,505.56	3,040,505.56	80,182.88	30,451.87	110,634.75

Cordage					
Pulpwood					
Balsam	16,320.99	1,387,224.65	22,848.43	5,069.35	27,917.78
Birch, white	299.11	25,424.35	149.56	140.71	290.27
Pine, jack	26,558.74	2,257,492.90	53,117.48	3,955.75	57,073.23
Poplar	8,266.29	702,634.65	4,133.15	3,259.17	7,392.32
Spruce	291,636.77	24,789,125.45	816,582.90	135,815.06	952,397.96
Total pulpwood	343,081.20	29,161,902.00	896,831.52	148,240.04	1,045,071.56
Fuelwood					
Hardwood	2,299.35	195,444.75	1,149.68	48.50	1,198.18
Softwood	648.51	55,123.35	324.26	64.78	389.04
Total fuelwood	2,947.86	250,568.10	1,473.94	113.28	1,587.22
Bolts					
Birch, white	41.09	3,492.65	20.65	35.33	55.98
Poplar	3,843.02	326,656.70	1,936.46	1,679.81	3,616.27
Poplar (export levy)	( 1,816.13)	( 154,371.05)		181.61	181.61
Total bolts	3,884.11	330,149.35	1,957.11	1,896.75	3,853.86
Total cordage	349,913.17	29,742,619.45	900,262.57	150,250.07	1,050,512.64
Miscellaneous					
Posts — lin. ft.					
Cedar	1,636	1,852.35	123.49		123.49
Spruce	91	109.50	7.30		7.30
Mining Timber — cu. ft.					
Pine, jack	28,421	40,037.09	940.87		940.87
Spruce	487	1,095.07	36.14	7.67	43.81
Christmas trees	198	99.00	20.60		20.60
Total miscellaneous	30,833	43,193.01	1,128.40	7.67	1,136.07
Total Ontario Scale	520,222	1,682,447.00	35,232.30	11,322.73	46,555.03
Total cubic foot measure	514,122	3,040,505.56	80,182.88	30,451.87	110,634.75
Total cordage	349,913.17	29,742,619.45	900,262.57	150,250.07	1,050,512.64
Grand total	1,065,177	34,508,795.02	1,016,806.15	192,032.34	1,208,838.49
Number of permits issued and included in above—					
Conversion factor—Ontario Scale to cubic foot measure—					
Conversion factor—cordage to cubic foot measure—					
	539	5.35			83,500.08
	85				

# FORT FRANCES

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>					\$	\$	\$
Balsam	215		7,184	1,342.81	28.74	7.18	35.92
Birch, white	650		11,107	2,076.08	16.66		16.66
Cedar	529		12,637	2,362.06	37.92	24.92	62.84
Pine, jack	399,588		9,875,707	1,845,926.54	39,502.81	331.48	39,834.29
Pine, red	2,774		164,791	30,802.06	823.98	667.30	1,491.28
Pine, white	4,920		415,290	77,624.30	2,076.47	1,749.32	3,825.79
Poplar	186		12,478	2,332.34	18.72		18.72
Spruce	142,828		3,104,941	580,362.80	12,419.77	4,848.79	17,268.56
Total Ontario Scale	551,690		13,604,165	2,542,828.99	54,925.07	7,628.99	62,554.06
<b>Doyle Rule</b>							
Pine, red	11		1,208	302.00	6.04	6.04	12.08
Pine, white	151		10,297	2,574.25	51.49	51.49	102.98
Total Doyle Rule	162		11,505	2,876.25	57.53	57.53	115.06
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	14		45.88	45.88	0.76	0.07	0.83
Cedar	151		811.09	811.09	13.38	17.53	30.91
Pine, jack	18,572		91,203.51	91,203.51	2,143.21	1,344.12	3,487.33
Pine, red	30,782		258,295.23	259,295.23	8,523.72	579.26	9,102.98
Pine, white	16,877		181,812.20	181,812.20	5,999.80	411.64	6,411.44
Poplar	1,948		14,157.07	14,157.07	84.94	56.86	141.80
Spruce	4,884		29,591.85	29,591.85	976.51	143.42	1,119.93
Total saw-logs	73,228		575,916.83	575,916.83	17,742.32	2,552.90	20,295.22
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Cedar	51		291.09	291.09	9.21	7.17	9.21
Pine, red	188		5,741.54	5,741.54	318.78		325.95
Pine, white	5		153.52	153.52	8.36		8.36
Spruce	62		2,185.10	2,185.10	125.28	0.34	125.62





GERALDTON

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Cubic Foot Measure</b>							
Saw-logs	2,883		25,889.67	25,889.67	\$ 426.43	\$ 94.18	\$ 520.61
Balsam	35,089		299,986.71	299,986.71	7,058.33	389.17	7,447.50
Pine, jack	185,703		1,308,729.11	1,308,729.11	7,698.53	1,512.94	9,211.47
Poplar	181,984		1,705,846.78	1,705,846.78	56,192.55	3,820.17	60,012.72
Spruce							
Total saw-logs	405,659		3,340,452.27	3,340,452.27	71,375.84	5,816.46	77,192.30
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Balsam	24		148.20	148.20	2.44	0.87	3.31
Cedar	908		14,408.34	14,408.34	237.32	16.95	254.27
Pine, jack	88		538.97	538.97	12.70	0.25	12.95
Spruce	3,255		53,721.33	53,721.33	1,769.63	146.39	1,916.02
<b>Piling</b>							
Pine, jack	59		301.62	301.62	7.10	0.36	7.46
Spruce	1,127		9,887.42	9,887.42	350.20	32.76	382.96
<b>Poles</b>							
Birch, white	24		127.20	127.20	3.71	1.29	5.00
Cedar	25		257.65	257.65	10.30	4.50	10.30
Pine, jack	4		16.59	16.59	0.50	0.25	0.50
Spruce	128		1,091.34	1,091.34	37.26	15.45	52.71
Total boom timber, piling, poles	5,642		80,498.66	80,498.66	2,431.16	218.82	2,649.98
Total cubic foot measure	411,301		3,420,950.93	3,420,950.93	73,807.00	6,035.28	79,842.28
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		33,656.83		2,860,830.55	47,067.09	10,030.10	57,097.19
Birch, white		574.09		48,797.65	287.05	287.05	287.05
Pine, jack		119,194.20		10,131,507.00	237,076.96	9,946.46	247,023.42

Poplar	73,008.52	6,205,724.20	36,504.28	30.20	36,534.48
Spruce	388,894.19	33,056,006.15	1,083,388.90	77,408.47	1,160,797.37
Tamarack	3.98	338.30	5.57		5.57
Total pulpwood	615,331.81	52,303,203.85	1,404,329.85	97,415.23	1,501,745.08
<b>Fuelwood</b>					
Softwood	1,347.16	114,508.60	673.58	19.41	692.99
Total fuelwood	1,347.16	114,508.60	673.58	19.41	692.99
<b>Bolts</b>					
Birch, white	71.25	6,056.25	35.64	16.18	51.82
Poplar	5,737.66	487,701.10	2,868.84	1,370.44	4,239.28
Total bolts	5,808.91	493,757.35	2,904.48	1,386.62	4,291.10
Total cordage	622,487.88	52,911,469.80	1,407,907.91	98,821.26	1,506,729.17
<b>Miscellaneous</b>					
Posts — lin. ft.					
Cedar	18		1.57	3.83	5.40
Spruce	60		72.00	1.20	6.00
Mining Timber — cu. ft.					
Spruce	2,395	4,263.96	140.45	1.97	142.42
<b>Tie Blocks</b>					
Pine, jack	4,846	28,738.13	675.00	348.97	1,023.97
Christmas Trees	500	250.00	25.00		25.00
Total miscellaneous	7,819	33,347.64	846.82	355.97	1,202.79
Total cubic foot measure	411,301	3,420,950.93	73,807.00	6,035.28	79,842.28
Total cordage		622,487.88	1,407,907.91	98,821.26	1,506,729.17
Grand total	419,120	56,365,768.37	1,482,561.73	105,212.51	1,587,774.24
Number of permits issued and included in above—					1,124.22
Conversion factor—Ontario Scale to cubic foot measure—					5.35
Conversion factor—cordage to cubic foot measure—					85

# GOGAMA

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Pine, jack	429,715		12,448,014	2,326,731.59	49,792.05	1,146.39	50,938.44
Pine, red	5,496		432,374	80,817.57	2,161.88	1,823.24	3,985.12
Pine, white	19,623		2,712,197	506,952.71	13,561.00	12,727.74	26,288.74
Spruce	193,602		5,232,245	977,989.72	20,928.98	15,696.74	36,625.72
Total Ontario Scale	648,436		20,824,830	3,892,491.59	86,443.91	31,394.11	117,838.02
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Birch, white	2,869		20,784.88	20,784.88	124.71	62.35	187.06
Cedar	504		2,272.88	2,272.88	37.51	42.73	80.24
Pine, jack	125,900		526,142.63	526,142.63	12,364.36	6,162.53	18,526.89
Spruce	130,768		626,103.54	626,103.54	20,653.54	3,103.60	23,757.14
Total saw-logs	260,041		1,175,303.93	1,175,303.93	33,180.12	9,371.21	42,551.33
<b>Boom Timber, Piling, Poles Boom and Dimension Timber</b>							
Spruce	113		2,319.00	2,319.00	110.11	23.18	133.29
<b>Poles</b>							
Pine, jack	1,098		22,711.90	22,711.90	1,129.62	227.12	1,356.74
Spruce	4		130.45	130.45	7.26	1.31	8.57
Total boom timber, piling, poles	1,215		25,161.35	25,161.35	1,246.99	251.61	1,498.60
Total cubic foot measure	261,256		1,200,465.28	1,200,465.28	24,427.11	9,622.82	44,049.93



<b>Cordage</b>									
<b>Pulpwood</b>									
Balsam	2.88	244.80	4.03	0.29	4.32				
Pine, jack	22,618.20	1,922,547.00	45,236.40		45,236.40				
Poplar	1,843.34	156,683.90	921.67		921.67				
Spruce	13,145.00	1,117,325.00	36,806.00	949.42	37,755.42				
Total pulpwood	37,609.42	3,196,800.70	82,968.10	949.71	83,917.81				
<b>Fuelwood</b>									
Hardwood	211.00	17,935.00	105.50		105.50				
Softwood	133.00	11,305.00	66.50	66.50	133.00				
Total fuelwood	344.00	29,240.00	172.00	66.50	238.50				
Total cordage	37,953.42	3,226,040.70	83,140.10	1,016.21	84,156.31				
<b>Miscellaneous</b>									
<b>Posts — lin. ft.</b>									
Cedar	428	513.60	34.24	34.24	68.48				
<b>Mining Timber — cu. ft.</b>									
Pine, jack	45,962	157,869.19	3,714.56	557.18	4,271.74				
Spruce	7,168	20,447.85	673.57	84.20	757.77				
Total miscellaneous	53,558	178,830.64	4,422.37	675.62	5,097.99				
Total Ontario Scale	648,436	3,892,491.59	86,443.91	31,394.11	117,838.02				
Total cubic foot measure	261,256	1,200,465.28	34,427.11	9,622.82	44,049.93				
Total cordage	37,953.42	3,226,040.70	83,140.10	1,016.21	84,156.31				
Grand total	963,250	8,497,828.21	208,433.49	42,708.76	251,142.25				
<b>Number of permits issued and included in above—</b>									
Conversion factor—Ontario Scale to cubic foot measure—	42	5.35			1,449.41				
Conversion factor—cordage to cubic foot measure—	85								

# KAPUSKASING

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	29,258		132,553.03	132,553.03	2,186.73	3,545.33	5,732.06
Birch, white	92		1,320.44	1,320.44	7.77	7.20	14.97
Cedar	86		982.60	982.60	16.18		16.18
Pine, jack	281,466		1,678,851.36	1,678,851.36	39,454.72	32,039.85	71,494.57
Poplar	43,310		383,064.35	383,064.35	2,258.60	2,101.40	4,360.00
Spruce	1,310,422		5,714,511.99	5,714,511.99	188,534.98	51,044.15	239,579.13
Tamarack	456		2,563.41	2,563.41	42.30	78.18	120.48
Total Saw-logs	1,665,090		7,913,847.18	7,913,847.18	232,501.28	88,816.11	321,317.39
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Poplar	13		511.89	511.89	29.58		29.58
Spruce	732		18,501.88	18,501.88	775.39	13.72	789.11
<b>Poles</b>							
Cedar	6		29.46	29.46	0.88		0.88
Pine, jack	139		2,199.19	2,199.19	93.07		93.07
Total boom timber, piling, poles	890		21,242.42	21,242.42	898.92	13.72	912.64
Total cubic foot measure	1,665,980		7,935,089.60	7,935,089.60	233,400.20	88,829.83	322,230.03
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		18,901.11		1,606,594.35	26,461.53	9,694.31	36,155.84
Balsam (export levy)		( 887.94)		( 75,474.90)		887.94	887.94
Pine, jack		3,201.24		272,105.40	6,402.48	320.13	6,722.61
Poplar		10,137.64		861,699.40	5,068.83	2,001.62	7,070.45
Spruce		379,817.35		32,284,474.75	1,063,488.57	179,521.24	1,243,009.81
Spruce (export levy)		( 11,718.28)		( 996,053.80)		11,718.28	11,718.28
Total pulpwood		412,057.34		35,024,873.90	1,101,421.41	204,143.52	1,305,564.93

<b>Fuelwood</b>						
Hardwood	82.34	6,998.90	41.17	41.17		
Softwood	2,086.00	177,310.00	1,043.00	1,043.00		1,043.00
Total fuelwood	2,168.34	184,308.90	1,084.17	1,084.17		1,084.17
<b>Bolts</b>						
Birch, white	1.28	108.80	0.64	0.58	1.22	
Poplar	3,809.30	323,790.50	1,904.60	2,183.74	4,088.40	
Total bolts	3,810.58	323,899.30	1,905.30	2,184.32	4,089.62	
Total cordage	418,036.26	35,533,082.10	1,104,410.88	206,327.84	1,310,738.72	
<b>Miscellaneous</b>						
<b>Posts</b>	1,037	8,268	82.68		82.68	
Cedar						
Total miscellaneous	1,037	8,268	82.68		82.68	
Total cubic foot measure	1,665,980	7,935,089.60	233,400.20	88,829.83	322,230.03	
Total cordage	418,036.26	35,533,082.10	1,104,410.88	206,327.84	1,310,738.72	
Grand total	1,667,017	43,469,411.90	1,337,893.76	295,157.67	1,633,051.43	
Number of permits issued and included in above—						220,810.76
Conversion factor—Ontario Scale to cubic foot measure—						5.35
Conversion factor—cordage to cubic foot measure—						85

# KENORA

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
					\$	\$	\$
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Pine, red	3,464		109,219	20,414.77	546.11	880.39	1,426.50
Pine, white	6,723		418,984	78,314.77	2,094.92	3,073.56	5,168.48
Spruce	40		2,301	430.09	9.20	19.56	28.76
Total Ontario Scale	10,227		530,504	99,159.63	2,650.23	3,973.51	6,623.74
<b>Doyle Rule</b>							
Pine, red	138		4,952	1,238.00	24.76	17.33	42.09
Total Doyle Rule	138		4,952	1,238.00	24.76	17.33	42.09
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	15		56.07	56.07	0.93	0.76	1.69
Pine, jack	74,820		334,114.94	334,114.94	7,852.69	2,871.24	10,723.93
Pine, red	8,699		70,230.75	70,230.75	2,317.61	3,122.42	5,440.03
Pine, white	4,606		40,054.93	40,054.93	1,321.81	1,648.03	2,969.84
Poplar	1,633		13,160.69	13,160.69	78.96	45.80	124.76
Spruce	23,108		161,150.11	161,150.11	5,317.95	3,605.26	8,923.21
Total Saw-logs	112,881		618,767.49	618,767.49	16,889.95	11,293.51	28,183.46
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Pine, red	53		1,551.01	1,551.01	85.84		85.84
Pine, white	26		1,216.94	1,216.94	71.85		71.85
Spruce	33		1,233.78	1,233.78	71.65	17.52	89.17
<b>Poles</b>							
Cedar	169		1,343.93	1,343.19	44.58	26.88	71.46
Pine, jack	10,457		106,910.42	106,910.42	4,032.74	396.23	4,428.97
Pine, red	1,982		41,733.05	41,733.05	2,188.78	1,439.87	3,628.65



Pine, white	6	173.31	173.31	9.66	3.47	13.13
Spruce	267	6,453.91	6,453.91	332.41	80.97	413.38
Total boom timber, piling, poles	12,993	160,616.35	160,616.35	6,837.51	1,964.94	8,802.45
Total cubic foot measure	125,874	779,383.84	779,383.84	23,727.46	13,258.45	36,985.91
<b>Cordage</b>						
<b>Pulpwood</b>						
Balsam		3,423.01	290,955.85	4,792.23	2,064.44	6,856.67
Birch, white		29.35	2,494.75	14.68	2.94	17.62
Pine, jack		135,161.13	11,488,696.05	270,320.78	42,128.73	312,449.51
Poplar		1,247.62	106,047.70	623.82	298.95	922.77
Spruce		188,349.66	16,009,721.10	527,380.14	74,367.62	601,747.76
Total pulpwood		328,210.77	27,897,915.45	803,131.65	118,862.68	921,994.33
<b>Fuelwood</b>						
Hardwood		125.10	10,633.50	62.55	31.28	93.83
Softwood		135.83	11,545.55	67.91	33.96	101.87
Total fuelwood		260.93	22,179.05	130.46	65.24	195.70
Total cordage		328,471.70	27,920,094.50	803,262.11	118,927.92	922,190.03
<b>Miscellaneous</b>						
<b>Posts — lin. ft.</b>						
Cedar	4,412					
Pine, jack	193	35,622	5,343.30	356.22	88.52	444.74
Christmas Trees	50	1,716	257.40	17.16	17.16	17.16
			25.00	5.00		5.00
Total Miscellaneous	4,655		5,625.70	378.38	88.52	466.90
Total Ontario Scale	10,227	530,504	99,159.63	2,650.23	3,973.51	6,623.74
Total Doyle Rule	138	4,952	1,238.00	24.76	17.33	42.09
Total cubic foot measure	125,874	779,383.84	779,383.84	23,727.46	13,258.45	36,985.91
Total cordage		328,471.70	27,920,094.50	803,262.11	118,927.92	922,190.03
Grand total	140,894	328,471.70	28,805,501.67	830,042.94	136,265.73	966,308.67
<b>Number of permits issued and included in above—</b>						
Conversion factor—Ontario Scale to cubic foot measure—			418			157,240.93
Conversion factor—cordage to cubic foot measure—					85	

# LINDSAY

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	736		40,142	7,503.18	200.73	\$ 83.69	\$ 284.42
Balsam	939		22,577	4,220.00	90.31	47.67	137.98
Bass-wood	7,322		487,035	91,034.58	2,435.21	1,823.51	4,258.72
Beech	6,429		507,465	94,853.27	761.22	1,048.70	1,809.92
Birch, white	4,876		138,929	25,968.04	208.41	231.76	440.17
Birch, yellow	17,425		1,443,569	269,825.98	7,217.87	10,191.28	17,409.15
Cedar	658		14,541	2,717.94	43.61	31.49	75.10
Cherry	184		12,941	2,418.88	64.72	14.37	79.09
Elm	2,862		290,036	54,212.34	1,450.21	390.22	1,840.43
Hemlock	23,791		1,734,361	324,179.63	5,203.11	1,977.20	7,180.31
Maple	43,712		3,916,546	732,064.67	19,582.77	8,042.28	27,625.05
Oak	4,998		289,636	54,137.57	1,448.20	632.35	2,080.55
Pine, red	4,128		172,726	32,285.23	863.64	2,447.02	3,310.66
Pine, white	17,678		1,424,583	266,277.20	7,122.96	10,503.89	17,626.85
Poplar	10,149		441,560	82,534.58	662.34	1,157.60	1,819.94
Spruce	4,847		296,116	55,348.78	1,184.46	1,147.97	2,332.43
Tamarack	53		1,520	284.11	4.56	7.60	12.16
<b>Total Ontario Scale</b>	<b>150,787</b>		<b>11,234,283</b>	<b>2,099,865.98</b>	<b>48,544.33</b>	<b>39,778.60</b>	<b>88,322.93</b>
<b>Cubic Foot Measure</b>							
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Cedar	3		64.76	64.76	3.10	1.95	5.05
Pine, white	6		54.92	54.92	1.65	11.95	13.60
Spruce	9		465.48	465.48	27.93	9.56	37.49
<b>Total boom timber, piling, poles</b>	<b>18</b>		<b>585.16</b>	<b>585.16</b>	<b>32.68</b>	<b>23.46</b>	<b>56.14</b>
<b>Total cubic foot measure</b>	<b>18</b>		<b>585.16</b>	<b>585.16</b>	<b>32.68</b>	<b>23.46</b>	<b>56.14</b>

Cordage					
Pulpwood					
Ash	8.59	730.15	4.30	2.15	6.45
Balsam	34.77	2,955.45	48.68	15.87	64.55
Beech	32.84	2,791.40	16.42	8.21	24.63
Birch, white	114.19	9,706.15	57.09	4.88	61.97
Elm	85.84	7,296.40	42.92	21.46	64.38
Maple	741.48	63,025.80	370.74	144.91	515.65
Pine, jack	63.00	5,355.00	126.00	661.50	787.50
Pine, red	40.00	3,400.00	56.00	444.00	500.00
Poplar	730.97	62,132.45	365.49	111.43	476.92
Total pulpwood	1,851.68	157,392.80	1,087.64	1,414.41	2,502.05
Fuelwood					
Hardwood	121.50	10,327.50	60.75	34.25	95.00
Total fuelwood	121.50	10,327.50	60.75	34.25	95.00
Total cordage	1,973.18	167,720.30	1,148.39	1,448.66	2,597.05
Miscellaneous					
Posts — lin. ft.	2,113	23,554	235.54	14.06	249.60
Cedar	2,113	23,554	235.54	14.06	249.60
Total miscellaneous	2,113	23,554	235.54	14.06	249.60
Total Ontario Scale	150,787	11,234,283	2,099,865.98	39,778.60	88,322.93
Total cubic foot measure	18	585.16	32.68	23.46	56.14
Total cordage	1,973.18	167,720.30	1,148.39	1,448.66	2,597.05
Grand total	152,918	2,271,704.54	49,960.94	41,264.78	91,225.72
Number of permits issued and included in above—					
Conversion factor—Ontario Scale to cubic foot measure—					
Conversion factor—cordage to cubic foot measure—					
40					
5.35					
85					
7,089.25					

# MAPLE

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
Ontario Scale							\$
Oak	516		14,038	2,623.92	70.19	140.38	210.57
Pine, white	385		36,325	6,789.72	181.62	1,453.00	1,634.62
Total Ontario Scale	901		50,363	9,413.64	251.81	1,593.38	1,845.19
<b>Cordage</b>							
Fuelwood							
Hardwood		86.00		7,310.00	43.00	43.00	86.00
Total fuelwood		86.00		7,310.00	43.00	43.00	86.00
Total cordage		86.00		7,310.00	43.00	43.00	86.00
Total Ontario Scale	901		50,363	9,413.64	251.81	1,593.38	1,845.19
Grand Total	901	86.00		16,723.64	294.81	1,636.38	1,931.19
Number of permits issued and included in above—							7
Conversion factor—Ontario Scale to cubic foot measure—							5.35
Conversion factor—cordage to cubic foot measure—							85
							296.57



Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	1,278		61,115	11,423.36	305.58		\$
Balsam	1,321		19,969	3,732.52	79.88	170.89	476.47
Bass-wood	2,069		123,514	23,086.73	617.58	103.83	183.71
Beech	16		1,057	197.57	1.58	574.27	1,191.85
Birch, white	10,059		517,140	96,661.68	775.72		1.58
Birch, yellow	109,799		7,952,881	1,486,519.81	39,764.44	2,914.71	3,690.43
Cedar	1,007		25,978	4,855.70	77.94	61,925.81	101,690.25
Cherry	9		670	125.23	3.36	140.64	218.58
Elm	2,023		110,410	20,637.38	552.07	1.97	5.33
Hemlock	6,707		454,289	84,913.83	1,362.87	253.70	805.77
Maple	17,183		1,265,830	236,603.74	6,329.17	714.61	101,690.25
Oak	1,522		91,909	17,179.25	459.56	2,748.98	9,078.15
Pine, jack	20,984		393,980	73,641.12	1,575.92	335.53	795.09
Pine, red	145,022		12,160,253	2,272,944.49	60,801.32	2,230.83	3,806.75
Pine, white	411,122		41,740,888	7,802,035.14	208,704.51	52,384.14	113,185.46
Poplar	2,249		72,515	13,554.21	108.78	221,842.30	430,546.81
Spruce	38,938		1,980,079	370,108.22	7,920.31	227.14	335.92
Tamarack	893		22,320	4,171.96	66.96	7,899.12	15,819.43
Total Ontario Scale	772,201		66,994,797	12,522,391.94	329,507.55	200.88	267.84
<b>Cubic Foot Measure</b>						354,669.35	684,176.90
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Pine, red	47		1,355.13	1,355.13	72.68	40.65	113.33
Spruce	217		1,873.09	1,873.09	78.70	56.20	134.90
<b>Piling</b>							
Pine, jack	18		371.76	371.76	17.01	11.15	28.16
Pine, red	2		42.57	42.57	2.13	1.28	3.41
Spruce	3		71.51	71.51	3.74	2.15	5.89
<b>Poles</b>							
Balsam	89		423.56	423.56	13.37	4.57	17.94
Cedar	8		227.80	227.80	12.86	3.30	16.16
Hemlock	25		735.10	735.10	35.82	18.15	56.67
Maple	4		49.78	49.78	1.91	0.50	2.41
Pine, jack	1,642		10,481.11	10,481.11	327.54	314.43	641.97
Pine, red	465		7,569.95	7,569.95	311.56	274.65	586.21
Pine, white	44		1,163.56	1,163.56	47.64	33.65	81.29
Spruce	2,382		15,855.53	15,855.53	545.19	475.67	1,020.86
Total boom timber, piling, poles	4,946		40,220.45	40,220.45	1,472.85	1,236.35	2,709.20
Total cubic foot measure	4,946		40,220.45	40,220.45	1,472.85	1,236.35	2,709.20

# SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

NORTH BAY

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Cordage</b>							
Pulpwood							
Ash		302.01		25,670.85	151.01	332.21	483.22
Balsam		892.83		75,890.55	1,249.97	403.68	1,653.65
Bass-wood		204.93		17,419.05	102.46	102.47	204.93
Birch, white		6,840.92		581,478.20	3,420.47	3,027.64	6,448.11
Birch, yellow		0.20		17.00	0.10	0.05	0.15
Elm		153.73		13,067.05	76.87	76.87	153.74
Hemlock		33.18		2,820.30	46.45	19.91	66.36
Maple		2,752.57		233,968.45	1,376.29	2,018.66	3,394.95
Pine, jack		281.87		23,958.95	563.74	51.02	614.76
Pine, red		31.08		2,641.80	43.51		43.51
Pine, white		1,292.85		109,892.25	1,809.99	258.33	2,068.32
Poplar		25,871.67		2,199,091.95	12,935.85	11,295.15	24,231.00
Spruce		6,749.56		573,712.60	18,898.77	2,029.82	20,928.59
Tamarack		25.92		2,203.20	36.28	18.82	55.10
Total pulpwood		45,433.32		3,861,832.20	40,711.76	19,634.63	60,346.39
<b>Fuelwood</b>							
Hardwood		810.00		68,850.00	405.00	405.00	810.00
Softwood		52.00		4,420.00	26.00		26.00
Total fuelwood		862.00		73,270.00	431.00	405.00	836.00
<b>Bolts</b>							
Birch, white		368.00		31,280.00	184.00	92.00	276.00
Poplar		798.16		67,843.60	399.08	199.54	598.62
Poplar (export levy)	(	798.16)		( 67,843.60)		79.82	79.82
Total bolts		1,166.16		99,123.60	583.08	371.36	954.44
Total cordage		47,461.48		4,034,225.80	41,725.84	20,410.99	62,136.83
<b>Miscellaneous</b>							
Mining Timber — cu. ft.							
Pine, jack	27,594		114,752.83	114,752.83	2,696.69	4,188.48	6,885.17
Spruce	2,278		4,317.95	4,317.95	142.33	187.29	329.62
Total Miscellaneous	29,872		119,070.78	119,070.78	2,839.02	4,375.77	7,214.79
Total Ontario Scale	772,201		12,522,391.94	12,522,391.94	329,507.55	354,669.35	684,176.90
Total cubic foot measure	4,946		40,220.45	40,220.45	1,472.85	1,236.35	2,709.20
Total cordage		47,461.48		4,034,225.80	41,725.84	20,410.99	62,136.83
Grand total	807,019	47,461.48		16,715,908.97	375,545.26	380,692.46	756,237.72

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	1,101		71,125	13,294.39	\$ 355.69	\$ 252.65	\$ 608.34
Balsam	584		20,301	3,794.57	81.20	41.34	122.54
Bass-wood	8,216		579,111	108,245.04	2,895.59	4,024.41	6,920.00
Beech	447		34,552	6,458.31	51.81	164.86	216.67
Birch, white	2,741		122,466	22,890.84	183.71	448.68	632.39
Birch, yellow	83,183		7,451,769	1,392,854.02	37,258.93	61,737.06	98,395.99
Cedar	312		30,987	5,791.96	92.95	63.71	156.66
Cherry	671		48,927	9,145.23	244.67	62.58	307.25
Elm	3,440		347,624	64,976.45	1,738.20	961.74	2,699.94
Hemlock	31,526		2,093,078	391,229.53	6,279.24	5,785.66	12,064.90
Maple	77,443		6,462,149	1,207,878.32	32,310.82	23,293.14	55,603.96
Oak	811		83,879	15,678.32	419.44	691.08	1,110.52
Pine, jack	1		19	3.55	0.08	0.05	0.13
Pine, red	3,122		146,228	27,332.34	731.15	1,432.51	2,163.66
Pine, white	15,659		1,017,088	190,109.91	5,085.50	8,472.02	13,557.52
Poplar	1,423		84,460	15,786.92	126.68	183.69	310.37
Spruce	13,155		784,839	146,698.88	3,139.36	4,101.74	7,241.10
Tamarack	135		1,361	254.39	4.08	2.73	6.81
Total Ontario Scale	243,970		19,379,963	3,622,422.97	90,999.10	111,719.65	202,718.75
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Pine, jack	1,321		3,069.75	3,069.75	72.14	66.00	138.14
Pine, red	2,386		9,911.48	9,911.48	327.08	465.84	792.92
Pine, white	3,128		17,357.16	17,357.16	572.79	954.64	1,527.43
Poplar	668		2,353.93	2,353.93	14.12	32.96	47.08
Spruce	774		2,541.56	2,541.56	83.87	94.04	177.91
Total saw-logs	8,277		35,233.88	35,233.88	1,070.00	1,613.48	2,683.48
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Balsam	40		240.00	240.00	3.96	10.44	14.40
Birch, white	2,098		10,992.05	10,992.05	65.95	153.89	219.84
Cedar	283		1,861.73	1,861.73	62.09	62.29	124.38
Hemlock	34		1,282.14	1,282.14	76.02	73.14	149.16
Pine, jack	4,637		13,629.44	13,629.44	320.29	201.68	521.97

Continued on page 312

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
Pine, red	386		3,648.82	3,648.82	120.41	207.98	328.39
Pine, white	1,826		19,216.57	19,216.57	642.19	1,079.43	1,721.62
Spruce	549		7,712.88	7,712.88	362.83	103.89	466.72
Poles	299		1,977.37	1,977.37	122.19	1.34	123.53
Cedar	7		188.23	188.23	10.67		10.67
Hemlock							
Total boom timber, piling, poles	10,159		60,749.23	60,749.23	1,786.60	1,894.08	3,680.68
Total cubic foot measure	18,436		95,983.11	95,983.11	2,856.60	3,507.56	6,364.16
<b>Cordage</b>							
Pulpwood		24.05		2,044.25	12.03	12.03	24.06
Ash		1,706.26		145,032.10	2,388.77	172.45	2,561.26
Balsam		17.47		1,484.95	8.74	8.74	17.48
Bass-wood		852.12		72,430.20	426.07	357.64	783.71
Birch, white		26.82		2,279.70	13.41	13.41	26.82
Birch, yellow		113.72		9,666.20	159.21	103.95	263.16
Hemlock		29.01		2,465.85	14.51	14.51	29.02
Maple		346.30		29,435.50	692.60	236.02	928.62
Pine, jack		393.17		33,419.45	550.44	420.63	971.07
Pine, red		204.84		17,411.40	286.78	219.81	506.59
Pine, white		4,673.07		397,210.95	2,336.55	2,057.92	4,394.47
Poplar		356.31		30,286.35	997.66	51.42	1,049.08
Spruce							
Total pulpwood		8,743.14		743,166.90	7,886.77	3,668.57	11,555.34
<b>Fuelwood</b>							
Hardwood		3,613.15		307,117.75	1,806.59	236.34	2,042.39
Softwood		119.64		10,169.40	59.82		59.82
Total fuelwood		3,732.79		317,287.15	1,866.41	236.34	2,102.75
Total cordage		12,475.93		1,060,454.05	9,753.18	3,904.91	13,658.09
<b>Miscellaneous</b>							
Posts — lin. ft.			11,153	1,672.95	111.53		111.53
Cedar	1,389		640	96.00	6.40		6.40
Pine, jack	42						
Total Miscellaneous	1,431		11,793	1,768.95	117.93		117.93
Total Ontario Scale	243,970		19,379,963	3,622,422.97	90,999.10	111,719.65	202,718.75
Total cubic foot measure	18,436		95,983.11	95,983.11	2,856.60	3,507.56	6,364.16
Total cordage		12,475.93		1,060,454.05	9,753.18	3,904.91	13,658.09
Grand total	263,837			4,780,629.08	103,726.81	119,132.12	222,858.93



# PEMBROKE

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	474		35,786	6,688.97	178.95	\$ 83.12	\$ 262.07
Balsam	1,859		41,903	7,832.34	167.62	106.83	274.45
Bass-wood	732		42,226	7,892.71	211.14	171.64	382.78
Beech	1,000		74,132	13,856.45	111.20	156.15	267.35
Birch, white	9,373		481,353	89,972.52	722.03	652.70	1,374.73
Birch, yellow	114,325		9,385,240	1,754,250.47	46,926.24	77,785.41	124,711.65
Cedar	458		11,538	2,156.64	34.63	20.86	55.49
Cherry	422		31,378	5,865.05	156.91	31.37	188.28
Elm	1,469		175,112	32,731.22	875.59	299.65	1,175.24
Hemlock	58,723		3,956,041	739,446.92	11,868.11	8,105.36	19,973.47
Maple	107,033		8,916,867	1,666,704.11	44,584.38	10,937.03	55,521.41
Oak	1,273		76,075	14,219.63	380.41	216.44	596.85
Pine, jack	24,729		824,837	154,175.14	3,299.34	3,448.82	6,748.16
Pine, red	110,088		4,803,242	897,802.24	24,016.27	31,512.58	55,528.85
Pine, white	201,667		12,058,144	2,253,858.69	60,290.79	102,212.41	162,503.20
Poplar	35,257		1,588,819	296,975.52	2,383.22	1,887.29	4,270.51
Spruce	52,702		3,015,333	563,613.64	12,061.35	13,095.09	25,156.44
Total Ontario Scale	721,584		45,518,026	8,508,042.26	208,268.18	250,722.75	458,990.93
<b>Cubic Foot Measure</b>							
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Spruce	166		4,965.31	4,965.31	266.41	156.15	422.56
<b>Poles</b>							
Hemlock	102		2,761.48	2,761.48	146.50		146.50
Pine, jack	6,678		97,690.82	97,690.82	4,139.62	6,059.99	10,199.61
Pine, red	16,091		346,002.61	346,002.61	16,692.28	23,508.58	40,200.86
Total boom timber, piling, poles	23,037		451,420.22	451,420.22	21,244.81	29,724.72	50,969.53
Total cubic foot measure	23,037		451,420.22	451,420.22	21,244.81	29,724.72	50,969.53

Continued on page 314

PEMBROKE

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Cordage</b>							
Pulpwood							
Balsam		582.59		49,520.15	815.62	223.66	1,039.28
Birch, white		235.85		20,047.25	117.93	9.00	126.93
Pine, jack		7,446.26		632,932.10	14,892.52	10.78	14,903.30
Pine, red		285.69		24,283.65	399.97	2.11	402.08
Pine, white		494.31		42,016.35	692.03	0.56	692.59
Poplar		9,334.29		793,414.65	4,667.16	954.79	5,621.95
Poplar (export levy)	(	3,364.18)		( 285,955.30)			336.42
Spruce		4,195.37		356,606.45	11,747.03	1,496.31	13,243.34
Tamarack		82.82		7,039.70	115.95		115.95
Total Pulpwood		22,657.18		1,925,860.30	33,448.21	3,033.63	36,481.84
<b>Fuelwood</b>							
Hardwood		585.16		49,738.60	292.59	25.75	318.34
Softwood		7.33		623.05	3.67		3.67
Total Fuelwood		592.49		50,361.65	296.26	25.75	322.01
Total cordage		23,249.67		1,976,221.95	33,744.47	3,059.38	36,803.85
<b>Miscellaneous</b>							
Posts — lin. ft.							
Cedar	55		440	66.00	4.40	4.40	8.80
Total miscellaneous	55		440	66.00	4.40	4.40	8.80
Total Ontario Scale	721,584		45,518,026	8,508,042.26	208,268.18	250,722.75	458,990.93
Total cubic foot measure	23,037		451,420.22	451,420.22	21,244.81	29,724.72	50,969.53
Total cordage		23,249.67		1,976,221.95	33,744.47	3,059.38	36,803.85
Grand Total	744,676	23,249.67		10,935,750.43	263,261.86	283,511.25	546,773.11
Number of permits issued and included in above—							15,301.77
Conversion factor—Ontario Scale to cubic foot measure—							79
Conversion factor—cordage to cubic foot measure—							5.35
							85

# PORT ARTHUR

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	52		2,749	513.83	\$ 13.75	\$ 7.13	\$ 20.88
Balsam	1,170		31,814	5,946.54	127.34	89.80	217.14
Birch, white	787		41,007	7,664.85	61.51	61.16	122.67
Cedar	757		17,798	3,326.73	53.39	31.86	85.25
Pine, jack	14,678		331,250	61,915.89	1,325.00	1,159.37	2,484.37
Pine, red	2,142		131,330	24,547.66	656.66	657.48	1,314.14
Pine, white	8,721		517,648	96,756.64	2,588.28	2,869.07	5,457.35
Poplar	1,231		44,578	8,332.34	66.87	20.68	87.55
Spruce	4,261		153,363	28,665.98	613.45	613.45	1,226.90
Total Ontario Scale	33,799		1,271,537	237,670.47	5,506.25	5,510.00	11,016.25
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	5,609		25,572.36	25,572.36	421.78	777.99	1,199.77
Birch, white	17,540		131,982.02	131,982.02	783.81	1,554.45	2,338.26
Cedar	27,221		3,266.55	3,266.55	53.80	4.76	58.56
Pine, jack	223,457		1,035,279.61	1,035,279.61	24,350.26	7,360.10	31,710.36
Pine, red	830		5,612.05	5,612.05	185.20	207.66	392.86
Pine, white	972		8,986.41	8,986.41	295.96	331.83	627.79
Poplar	12,326		83,909.52	83,909.52	500.67	1,039.67	1,540.34
Spruce	78,338		502,759.50	502,759.50	16,570.66	3,269.90	19,840.56
Total saw-logs	366,293		1,797,350.02	1,797,350.02	43,162.14	14,546.36	57,708.50
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Balsam	108		1,041.15	1,041.15	37.08	10.40	47.48
Pine, jack	4		16.98	16.98	.51	.17	.68
Pine, white	1		29.70	29.70	1.49	0.59	2.08
Spruce	762		21,574.49	21,574.49	1,158.20	209.30	1,367.50

Continued on page 316

# PORT ARTHUR

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Poles</b>							
Pine, jack	6,550		91,052.25	91,052.25	3,806.58	965.00	4,771.58
Pine, red	127		1,764.66	1,742.66	68.00	34.85	102.85
Pine, white	65		1,059.17	1,059.17	45.36	21.17	66.53
Spruce	305		6,335.33	6,335.33	321.76	61.63	383.39
Total boom timber, piling, poles	7,922		122,851.73	122,851.73	5,438.98	1,303.11	6,742.09
Total cubic foot measure	374,215		1,920,201.75	1,920,201.75	48,601.12	15,849.47	64,450.59
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		22,260.93		1,892,179.05	31,165.31	9,287.47	40,452.78
Birch, white		3,568.03		303,282.55	1,784.01	2,724.07	4,508.08
Pine, jack		31,612.08		2,687,026.80	63,224.16	8,318.26	71,542.42
Pine, red		10.00		850.00	14.00		14.00
Pine, white		23.64		2,009.40	33.10	71.94	105.04
Poplar		7,877.93		669,624.05	3,938.97	6,610.91	10,549.88
Poplar (export levy)		( 253.00)		( 21,505.00)		25.30	25.30
Spruce		267,540.40		22,740,934.00	749,113.08	112,864.43	861,977.51
Spruce (export levy)		( 2,281.22)		( 193,903.70)		2,281.22	2,281.22
Tamarack		151.76		12,899.60	212.47	18.59	231.06
Total pulpwood		333,044.77		28,308,805.45	849,485.10	142,202.19	991,687.29
<b>Fuelwood</b>							
Hardwood		408.69		34,738.65	204.34	204.35	408.69
Total fuelwood		408.69		34,738.65	204.34	204.35	408.69
<b>Bolts</b>							
Birch, white		120.82		10,269.70	60.42	131.63	192.05
Birch, white (export levy)		( 2.47)		209.95)		0.25	0.25
Poplar		2,181.93		185,464.05	1,090.97	2,568.57	3,659.54
Poplar (export levy)		( 198.56)		( 16,877.60)		19.86	19.86
Total bolts		2,302.75		195,733.75	1,151.39	2,720.31	3,871.70
Total cordage		335,756.21		28,539,277.85	850,840.83	145,126.85	995,967.68



<b>Miscellaneous</b>									
Posts — lin. ft.									
Cedar	1,164	9,312	1,396.80	93.12	30.11				
<b>Tie Blocks — cu. ft.</b>									
Pine, jack	51,302	227,990.69	227,990.69	5,361.90	1,042.44				
Christmas Trees	51		25.50	5.10					
Total miscellaneous	52,517		229,412.99	5,460.12	1,072.55				
Total Ontario Scale	33,799		237,670.47	5,506.25	5,510.00				6,532.67
Total cubic foot measure	374,215	1,271,537	1,920,201.75	48,601.12	15,849.47				11,016.25
Total cordage		335,756.21	28,539,277.85	850,840.83	145,126.85				64,450.59
Grand total	460,531	335,756.21	30,926,563.06	910,408.32	167,558.87				995,967.68
Number of permits issued and included in above—		367							1,077,967.19
Conversion factor—Ontario Scale to cubic foot measure—		5.35							78,230.21
Conversion factor—cordage to cubic foot measure—		85							

## SAULT STE. MARIE

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	70		5,888	1,100.56	29.46	17.10	46.56
Balsam	440		14,549	2,719.44	58.20	60.86	119.06
Birch, white	11,666		726,140	135,727.10	1,089.23	2,570.12	3,659.35
Birch, yellow	243,246		20,324,870	3,799,041.12	101,624.43	207,628.93	309,253.36
Cedar	133		9,521	1,779.63	28.57	29.33	57.90
Elm	1,379		146,964	27,469.91	734.83	381.83	1,116.66
Hemlock	7,482		777,968	145,414.58	2,333.91	1,509.64	3,843.55
Maple	118,349		8,994,897	1,681,289.16	44,974.56	29,497.73	74,472.29
Oak	3,691		364,356	68,103.93	1,821.83	1,389.92	3,211.75
Pine, jack	367		15,021	2,807.66	60.08	30.04	90.12
Pine, red	57,004		4,326,971	808,779.63	21,634.86	12,825.30	34,460.16
Pine, white	314,249		35,328,041	6,603,372.15	176,640.26	112,850.59	289,490.85
Poplar	734		52,020	9,723.36	78.02	35.80	113.82
Spruce	32,246		1,765,732	330,043.36	7,062.92	6,122.21	13,185.13
Total Ontario Scale	791,056		72,852,938	13,617,371.59	358,171.16	374,949.40	733,120.56
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Birch, white	549		3,919.19	3,919.19	23.52	101.90	125.42
Cedar	433		1,204.16	1,204.16	19.87	40.33	60.20
Pine, jack	253		1,145.61	1,145.61	26.92	41.81	68.73
Pine, red	32		225.00	225.00	7.42	12.82	20.24
Poplar	60		610.00	610.00	3.66	14.64	18.30
Spruce	200		1,697.55	1,697.55	56.02	45.83	101.25
Total saw-logs	1,527		8,801.51	8,801.51	137.41	257.33	394.74
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Birch, white	1		41.89	41.89	2.51		2.51
Birch, yellow	4		106.30	106.30	5.39		5.39
Pine, jack	81		1,980.42	1,980.42	99.70		99.70
Pine, red	377		12,583.97	12,583.97	702.82		702.82
Pine, white	374		19,322.15	19,322.15	1,139.07		1,139.07

Poplar	7	185.63	185.63	9.92	9.92
Spruce	1,709	41,980.48	41,980.48	2,171.01	2,218.20
Total boom timber, piling, poles	2,553	76,200.84	76,200.85	4,130.42	4,177.61
Total cubic foot measure	4,080	85,002.35	85,002.35	4,267.83	4,572.35
<b>Pulpwood</b>					
<b>Cordage</b>					
Balsam		5,656.84	480,831.40	7,919.57	9,200.51
Birch, white		7.93	674.05	3.97	11.50
Pine, jack		438.35	37,259.75	876.70	361.70
Poplar		422.96	35,951.60	211.49	1,238.40
Spruce		10,724.16	911,553.60	30,027.63	631.56
Total pulpwood		17,250.24	1,466,270.40	39,039.36	34,038.97
<b>Fuelwood</b>				6,081.58	45,120.94
Hardwood		640.18	54,415.30	320.10	300.33
Total fuelwood		640.18	54,415.30	320.10	300.33
Total cordage		17,890.42	1,520,685.70	39,359.46	620.43
<b>Miscellaneous</b>				6,381.91	45,741.37
<b>Posts—lin. ft.</b>					
Cedar	16	538	80.70	5.38	5.38
<b>Mining Timber—cu. ft.</b>					
Pine, jack	633	1,644.20	1,644.20	38.68	31.91
Spruce	1,616	2,439.99	2,439.99	80.39	70.59
<b>Tie Blocks—cu. ft.</b>				48.81	129.20
Pine, jack	1,040	2,986.10	2,986.10	70.26	57.96
Spruce	5	15.77	15.77	0.53	0.85
Total miscellaneous	3,310	72,852,938	7,166.76	195.24	334.24
Total Ontario Scale	791,056	13,617,371.59	374,949.40	358,171.16	733,120.56
Total cubic foot measure	4,080	85,002.35	85,002.35	4,267.83	4,572.35
Total cordage		17,890.42	1,520,685.70	39,359.46	6,381.91
Grand total	798,446	17,890.42	15,230,226.40	401,993.69	381,774.83
Number of permits issued and included in above—					783,768.52
Conversion factor—Ontario Scale to cubic foot measure—					116
Conversion factor—cordage to cubic foot measure—					5.35
Conversion factor—cordage to cubic foot measure—					85
					7,699.24

# SIOUX LOOKOUT

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Balsam	26,492		483,280	90,332.71	1,933.12	\$ 946.42	\$ 2,879.54
Pine, jack	273,442		7,167,754	1,339,767.10	28,671.02	6,694.02	35,365.04
Pine, red	246		19,777	3,696.64	98.89	86.79	185.68
Poplar	1,540		84,756	15,842.24	127.13		127.13
Spruce	802,702		15,163,933	2,834,380.00	60,655.74	27,914.84	88,570.58
Total Ontario Scale	1,104,422		22,919,500	4,284,018.69	91,485.90	35,642.07	127,127.97
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	9		42.36	42.36	0.70	0.57	1.27
Birch, white	138		883.22	883.22	5.30	3.53	8.83
Pine, jack	69,034		372,840.84	372,840.84	8,764.93	1,976.58	10,741.51
Pine red	146		1,007.65	1,007.65	33.25	17.13	50.38
Poplar	686		2,430.40	2,430.40	14.58	9.72	24.30
Spruce	61,026		381,448.84	381,448.84	12,587.76	2,749.25	15,337.01
Total saw-logs	131,039		758,653.31	758,653.31	21,406.52	4,756.78	26,163.30
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Spruce	3,292		37,077.77	37,077.77	1,680.78	191.44	1,872.22
Poles	5,410		90,868.06	90,868.06	3,902.00		3,902.00
Pine, jack	1		33.00	33.00	1.98		1.98
Pine, red							
Total boom timber, piling, poles	8,703		127,978.83	127,978.83	5,584.76	191.44	5,776.20
Total cubic foot measure	139,742		886,632.14	886,632.14	26,991.28	4,948.22	31,939.50



Cordage

<b>Pulpwood</b>					
Balsam	391.27	33,257.95	545.55	168.05	713.60
Pine, jack	48,628.52	4,133,424.20	97,215.51	6,904.62	104,120.13
Spruce	91,173.79	7,749,772.15	247,365.55	13,434.21	260,799.76
Tamarack	0.10	8.50	0.14	0.01	0.15
Total pulpwood	140,193.68	11,916,462.80	345,126.75	20,506.89	365,633.64
<b>Fuelwood</b>					
Hardwood	70.00	5,950.00	35.00		35.00
Softwood	3,743.27	318,177.95	1,871.64	27.13	1,898.77
Total fuelwood	3,813.27	324,127.95	1,906.64	27.13	1,933.77
Total cordage	144,006.95	12,240,590.75	347,033.39	20,534.02	367,567.41
<b>Miscellaneous</b>					
Mining Timber — cu. ft.					
Spruce	42,828	60,568.20	3,425.73	10.23	3,435.96
<b>Tie Blocks</b> — cu. ft.					
Pine, jack	78,101	337,537.29	7,942.06	397.10	8,339.16
Total miscellaneous	120,929	398,105.49	11,367.79	407.33	11,775.12
Total Ontario Scale	1,104,422	4,284,018.69	91,485.90	35,642.07	127,127.97
Total cubic foot measure	139,742	886,632.14	26,991.28	4,948.22	31,939.50
Total cordage	144,006.95	12,240,590.75	347,033.39	20,534.02	367,567.41
Grand total	1,365,093	17,809,347.07	476,878.36	61,531.64	538,410.00

Number of permits issued and included in above—	191	68,239.28
Conversion factor—Ontario Scale to cubic foot measure—	5.35	
Conversion factor—cordage to cubic foot measure—	85	

# SUDBURY

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues \$	Bonus \$	Stumpage Value \$
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	20		120	22.42	0.60	0.60	1.20
Birch, white	3,847		218,170	40,779.44	327.26	901.81	1,229.07
Birch, yellow	3,447		355,931	66,529.16	1,779.68	6,110.72	7,890.40
Cedar	315		7,140	1,334.58	21.42	24.32	45.74
Elm	13		2,061	385.23	10.31	10.31	20.62
Hemlock	1,516		77,240	14,437.38	231.72	261.69	493.41
Maple	296		20,937	3,913.46	104.69	204.88	309.57
Oak	28		2,123	396.82	10.62	15.12	25.74
Pine, jack	485		20,443	3,821.12	81.78	44.21	125.99
Pine, red	23,388		1,683,433	314,660.37	8,417.17	5,818.95	14,236.12
Pine, white	41,131		3,439,343	642,867.85	17,196.72	16,677.63	33,874.35
Poplar	67		2,701	504.86	4.05		4.05
Spruce	4,532		226,313	42,301.49	905.26	666.74	1,572.00
Tamarack	15		783	146.35	2.35	0.78	3.13
Total Ontario Scale	79,100		6,056,738	1,132,100.53	29,093.63	30,737.76	59,831.39
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	196		687.23	687.23	11.34	27.01	38.35
Birch, white	3		25.29	25.29	0.15		0.15
Pine, jack	146,169		697,973.56	697,973.56	16,402.35	2,500.27	18,902.62
Pine, red	16,347		134,797.41	134,797.41	4,448.31	2,704.59	7,152.90
Pine, white	29,939		357,124.98	357,124.98	11,785.13	12,456.28	24,241.41
Poplar	106		1,031.90	1,031.90	6.19	9.84	16.03
Spruce	46,967		259,198.42	259,198.42	8,553.55	1,452.68	10,006.23
Tamarack	6		59.04	59.04	0.97		0.97
Total saw-logs	239,733		1,450,897.83	1,450,897.83	41,207.99	19,150.67	60,358.66
<b>Boom Timber, Piling, Poles Boom and Dimension Timber</b>							
Pine, jack	96		360.10	360.10	10.43	2.18	12.61
Pine, red	134		1,046.80	1,046.80	35.11	20.35	55.46
Spruce	72		1,565.17	1,565.17	71.30	26.18	97.48

Notes		12	100.56	100.56	3.02	5.02	8.04
Balsam	478	3,219.75	3,219.75	3,219.75	83.51	176.59	260.10
Cedar	148	3,035.38	3,035.38	3,035.38	151.98	40.85	192.83
Pine, jack	12	414.26	414.26	414.26	24.27	4.45	28.72
Pine, red	52	1,852.08	1,852.08	1,852.08	105.04	18.74	123.78
Pine, white	201	3,587.98	3,587.98	3,587.98	186.14	64.02	250.16
Total boom timber, piling, poles	1,205	15,182.08	15,182.08	15,182.08	670.80	358.38	1,029.18
Total cubic foot measure	240,938	1,466,079.91	1,466,079.91	1,466,079.91	41,878.79	19,509.05	61,387.84
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		1,598.77	135,895.45	135,895.45	2,238.27	1,357.89	3,596.16
Birch, white		1,283.07	109,060.95	109,060.95	641.55	595.66	1,237.21
Pine, jack		39,348.10	3,344,588.50	3,344,588.50	78,696.20	857.56	79,553.76
Pine, red		1,263.67	107,411.95	107,411.95	1,769.14	3,098.22	4,867.36
Pine, white		1,029.86	87,538.10	87,538.10	1,441.80	2,295.31	3,737.11
Poplar		7,916.23	672,879.55	672,879.55	3,958.14	3,808.45	7,766.59
Spruce		10,169.54	864,410.90	864,410.90	28,474.70	966.95	29,441.65
Total pulpwood		62,609.24	5,321,785.40	5,321,785.40	117,219.80	12,980.04	130,199.84
<b>Fuelwood</b>							
Hardwood		1,681.36	142,915.60	142,915.60	840.68	101.34	942.02
Softwood		42.00	3,570.00	3,570.00	21.00		21.00
Total fuelwood		1,723.36	146,485.60	146,485.60	861.68	101.34	963.02
Total cordage		64,332.60	5,468,271.00	5,468,271.00	118,081.48	13,081.38	131,162.86
<b>Miscellaneous</b>							
<b>Posts — lin. ft.</b>							
Cedar	886		7,088	1,063.20	70.88	144.93	215.81
<b>Mining Timber — cu. ft.</b>							
Poplar	2,000		680.00	680.00	20.00	20.00	40.00
Total miscellaneous	2,886			1,743.20	90.88	164.93	255.81
Total Ontario Scale	79,100		6,056,738	1,132,100.53	29,093.63	30,737.76	59,831.39
Total cubic foot measure	240,938		1,466,079.91	1,466,079.91	41,878.79	19,509.05	61,387.84
Total cordage		64,332.60	5,468,271.00	5,468,271.00	118,081.48	13,081.38	131,162.86
Grand total	322,924	64,332.60	8,068,194.64	8,068,194.64	189,144.78	63,493.12	252,637.90
<b>Number of permits issued and included in above—</b>							
Conversion factor—Ontario Scale to cubic foot measure—		284	5.35				19,456.89
Conversion factor—cordage to cubic foot measure—			85				

# SWASTIKA

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Pine, jack	571,433		13,130,887	2,454,371.40	\$ 52,523.55	\$ 23,170.97	\$ 75,694.52
Pine, red	14,786		553,505	103,458.88	2,767.53	4,114.20	6,881.73
Pine, white	17,522		1,326,789	247,997.94	6,633.95	9,939.42	16,573.37
Poplar	93,255		9,356,340	627,353.27	5,034.52	1,816.28	6,850.80
Spruce	185,800		5,290,174	988,817.57	21,160.71	13,840.40	35,001.11
Tamarack	1,370		15,793	2,951.96	47.38	110.55	157.93
Total Ontario scale	884,166		23,673,488	4,424,951.02	88,167.64	52,991.82	141,159.46
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	44		431.27	431.27	7.11	18.76	25.87
Birch, white	109		2,111.90	2,111.90	12.68	20.38	33.06
Pine, jack	693,924		3,484,474.48	3,484,474.48	81,885.13	70,214.36	152,099.49
Poplar	24,866		169,801.12	169,801.12	1,018.81	2,833.24	3,852.05
Spruce	74,127		369,443.89	369,443.89	12,191.65	7,917.42	20,109.07
Total saw-logs	793,070		4,026,262.66	4,026,262.66	95,115.38	81,004.16	176,119.54
<b>Boom Timber, Piling, Poles Boom and Dimension Timber</b>							
Spruce	62		1,606.55	1,606.55	83.83	16.07	99.90
<b>Poles</b>							
Pine, jack	301		7,779.32	7,779.32	328.33	212.08	540.41
Spruce	15		342.07	342.07	16.51	3.42	19.93
Total boom timber, piling, poles	378		9,727.94	9,727.94	428.67	231.57	660.24
Total cubic foot measure	793,448		4,035,990.60	4,035,990.60	95,544.05	81,235.73	176,779.78



<b>Cordage</b>					
<b>Pulpwood</b>					
Balsam	7,787.96	661,976.60	10,903.15	2,637.50	13,540.65
Birch, white	174.57	14,838.45	87.29	144.04	231.37
Pine, jack	993.61	84,456.85	1,987.22	75.91	2,063.13
Poplar	2,998.01	254,830.85	1,499.04	1,049.26	2,548.30
Spruce	41,770.27	3,550,472.95	116,956.77	20,886.67	137,843.44
Total pulpwood	53,724.42	4,566,575.70	131,433.47	24,793.42	156,226.89
<b>Fuelwood</b>					
Hardwood	1,175.00	99,875.00	587.50		587.50
Softwood	776.85	66,032.25	388.43		388.43
Total fuelwood	1,951.85	165,907.25	975.93		975.93
<b>Bolts</b>					
Birch, white	306.10	26,018.50	153.06	178.94	332.00
Poplar	6,583.31	559,581.35	3,291.69	3,553.71	6,845.40
Total bolts	6,889.41	585,599.85	3,444.75	3,732.65	7,177.40
Total cordage	62,565.68	5,318,082.80	135,854.15	28,526.07	164,380.22
<b>Miscellaneous</b>					
<b>Posts—lin. ft.</b>					
Cedar	5,052	5,794.05	386.27		386.27
<b>Mining Timber—cu. ft.</b>					
Spruce	32,306	48,258.66	1,589.73	175.32	1,765.05
Total miscellaneous	37,358	54,052.71	1,976.00	175.32	2,151.32
Total Ontario scale	884,166	4,424,951.02	88,167.64	52,991.82	141,159.46
Total cubic foot measure	793,448	4,035,990.60	95,544.05	81,235.73	176,779.78
Total cordage	62,565.68	5,318,082.80	135,854.15	28,526.07	164,380.22
Grand total	1,714,972	13,833,077.13	321,541.84	162,928.94	484,470.78
<b>Number of permits issued and included in above—</b>					
		356			40,257.84
<b>Conversion factor—Ontario Scale to cubic foot measure—</b>					
		5.35			
<b>Conversion factor—cordage to cubic foot measure—</b>					
		85			

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SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>					\$	\$	\$
Ash	1,304		47,750	8,925.23	238.80	190.47	429.27
Balsam	11,418		256,302	47,906.91	1,025.20	1,604.72	2,629.92
Bass-wood	17,346		950,964	177,750.29	4,754.90	5,546.55	10,301.45
Beech	7,560		344,674	64,425.05	517.02	1,897.99	1,897.01
Birch, white	11,283		367,650	68,719.63	551.48	1,715.55	2,267.03
Birch, yellow	4,656		269,512	50,376.08	1,347.63	3,358.62	4,706.25
Butternut	132		10,352	1,934.95	15.53	56.94	72.47
Cedar	3,872		93,804	17,533.46	281.41	333.04	614.45
Cherry	88		3,137	586.36	15.71	33.49	49.20
Elm	2,123		167,326	31,275.89	836.68	513.39	1,350.07
Hemlock	12,494		641,811	119,964.67	1,925.46	3,301.71	5,227.17
Maple	43,754		2,915,935	545,034.58	14,579.79	16,396.87	30,976.66
Oak	10,245		497,827	93,051.78	2,489.19	1,912.99	4,402.18
Pine, red	21,161		1,002,688	187,418.32	5,013.50	6,650.81	11,664.31
Pine, white	112,227		6,352,521	1,187,387.10	31,762.70	47,154.66	78,917.36
Poplar	38,130		1,524,021	284,863.74	2,286.02	5,007.26	7,293.28
Spruce	33,389		1,406,320	262,863.55	5,625.29	12,111.47	17,736.76
Tamarack	338		12,460	2,328.97	37.38	60.07	97.45
Total Ontario Scale	331,520		16,865,054	3,152,346.56	73,303.69	107,328.60	180,632.29
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	15		68.14	68.14	1.23	1.22	2.45
Bass-wood	56		309.81	309.81	8.05	17.67	25.72
Beech	5		43.46	43.46	0.39	1.13	1.52
Birch, white	106		860.38	860.38	6.88	22.37	29.25
Birch, yellow	16		141.64	141.64	4.11	9.20	13.31
Elm	4		39.01	39.01	1.17	1.21	2.38
Maple	24		449.05	449.05	13.02	20.66	33.68
Oak	36		205.51	205.51	5.75	8.22	13.97
Pine, white	47		368.34	368.34	9.95	22.46	32.41
Poplar	226		1,716.41	1,716.41	13.73	32.62	46.35
Total saw-logs	535		4,201.75	4,201.75	64.28	136.76	201.04

# **Boom Timber, Piling, Poles** **Boom and Dimension Timber**

Pine, white	28	528.24	528.24	23.69	5.28	28.97
Spruce	18	421.19	421.19	20.82	10.20	31.02
<b>Poles</b>						
Balsam	30	340.00	340.00	12.77	8.81	21.58
Cedar	15	380.80	380.80	20.33	3.95	24.28
Hemlock	109	3,072.70	3,072.70	163.96	6.56	170.52
Pine, red	91	2,486.36	2,486.36	132.28	24.86	157.14
Pine, white	18	496.80	496.80	25.99	29.08	55.07
Poplar	38	623.71	623.71	27.57		27.57
Spruce	59	928.40	928.40	38.17	16.52	54.69
Total boom timber, piling, poles	406	9,278.20	9,278.20	465.58	105.26	570.84
Total cubic foot measure	941	13,479.95	13,479.95	529.86	242.02	771.88

# **Cordage** **Pulpwood**

Ash	255.09	21,682.65	127.54	65.35	192.89
Balsam	1,360.20	115,617.00	1,904.28	829.84	2,734.12
Bass-wood	82.55	7,016.75	41.28	21.70	62.98
Beech	1,118.36	95,060.60	559.18	279.06	838.24
Birch, white	2,026.75	172,273.75	1,013.40	449.41	1,462.81
Birch, yellow	2.16	183.60	1.08		1.08
Elm	394.46	33,529.10	197.23	111.03	308.26
Hemlock	7.55	641.75	10.57	1.89	12.46
Maple	1,920.99	163,284.15	960.49	466.60	1,427.09
Oak	122.95	10,450.75	61.48	30.74	92.22
Pine, red	0.98	83.30	1.37	1.08	2.45
Pine, white	14.13	1,201.05	19.78	2.14	21.92
Poplar	10,481.45	890,923.25	5,240.77	2,852.94	8,093.71
Spruce	715.44	60,812.40	2,003.23	143.06	2,146.29
Tamarack	16.32	1,387.20	22.85	1.63	24.48
Total pulpwood	18,519.38	1,574,147.30	12,164.53	5,256.47	17,421.00

# **Fuelwood** **Hardwood** **Softwood**

Hardwood	374.94	31,869.90	187.49	187.49	187.49
Softwood	43.00	3,655.00	21.50	21.50	21.50
Total fuelwood	417.94	35,524.90	208.99		208.99
Total cordage	18,937.32	1,609,672.20	12,373.52	5,256.47	17,629.99

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

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# WHITE RIVER

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
Ontario Scale							
Pine, jack	2,890		86,402	16,149.91	\$ 345.61	\$ 259.21	\$ 604.82
Total Ontario Scale	2,890		86,402	16,149.91	345.61	259.21	604.82
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	12		19.51	19.51	0.32	0.27	0.59
Birch, white	10,483		77,087.05	77,087.05	462.52	3,650.22	4,112.74
Cedar	36		242.60	242.60	4.00	3.28	7.28
Pine, jack	219,834		3,358,783.54	3,358,783.54	78,931.41	49,522.28	128,453.69
Spruce	54,018		601,268.52	601,268.52	18,841.86	10,221.57	30,063.43
Total saw-logs	284,383		4,037,401.22	4,037,401.22	99,240.11	63,397.62	162,637.73
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Spruce	49		1,132.58	1,132.58	58.00		58.00
Poles							
Pine, jack	20		346.55	346.55	14.44		14.44
Total boom timber, piling, poles	69		1,479.13	1,479.13	72.44		72.44
Total cubic foot measure	284,452		4,038,880.35	4,038,880.35	99,312.55	63,397.62	162,710.17
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		5,570.93		473,529.05	7,799.29	1,689.99	9,489.28
Birch, white		70.30		5,975.50	35.15	70.30	105.45
Pine, jack		23,420.25		1,990,721.25	46,840.50	2,346.96	49,187.46
Spruce		85,720.70		7,286,259.50	240,018.07	25,497.28	265,515.35
Total pulpwood		114,782.18		9,756,485.30	294,693.01	29,604.53	324,297.54

Continued on page 330

# WHITE RIVER

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1962 TO MARCH 31, 1963

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Fuelwood</b>							
Hardwood		150.54		12,795.90	75.27	25.27	100.54
Softwood		97.00		8,245.00	48.50	48.50	97.00
Total fuelwood		247.54		21,040.90	123.77	73.77	197.54
Total cordage		115,029.72		9,777,526.20	294,816.78	29,678.30	324,495.08
<b>Miscellaneous</b>							
<b>Posts — lin. ft.</b>							
Pine, jack	552		5,070	760.50	50.70	50.70	101.40
Spruce	930		8,200	1,230.00	82.00	82.00	164.00
Tamarack	50		400	60.00	4.00	4.00	8.00
<b>Mining Timber — cu. ft.</b>							
Spruce	6,036		23,171.62	23,171.62	138.15	120.39	258.54
<b>Tie Blocks — cu. ft.</b>							
Pine, jack	9,974		48,582.74	48,582.74	1,141.69	315.79	1,457.48
Total miscellaneous	17,542			73,804.86	1,416.54	572.88	1,989.42
Total Ontario Scale	2,890		86,402	16,149.91	345.61	259.21	604.82
Total cubic foot measure	284,452		4,038,880.35	4,038,880.35	99,312.55	63,397.62	162,710.17
Total cordage		115,029.72		9,777,526.20	294,816.78	29,678.30	324,495.08
Grand total	304,884	115,029.72		13,906,361.32	395,891.48	93,908.01	489,799.49
Number of permits issued and included in above—							3,199.41
				41			
Conversion factor—Ontario Scale to cubic foot measure—				5.35			
Conversion factor—cordage to cubic foot measure—				85			

TIMBER SALES FROM APRIL 1st, 1963 TO MARCH 31st, 1964

Date Sold 1963	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid	Bonus \$	Dues \$	Total \$	Per M.B.M. cord
Apl. 19	Manion Operating Unit	3.5	1	Victor Pearson, Box 113, Fort Frances, Ontario	j. pine sawlogs j. pine pulpwood spruce pulpwood balsam pulpwood	2.50 0.35 1.25 0.50	1.50 0.15 0.70 0.10	4.00 2.00 2.80 1.40	8.00 2.50 4.75 2.00	M.B.M. cord " "
Apl. 22	Part Sisk Twp.	0.6	8	Lionel Rancourt, 33A Milford Crescent, North Bay, Ontario	w. pine sawlogs spruce sawlogs y. birch sawlogs balsam pulpwood w. birch pulpwood	5.00 nil 25.00 nil nil	10.00 6.00 10.00 0.60 0.50	5.00 4.00 5.00 1.40 0.50	20.00 10.00 40.00 2.00 1.00	M.B.M. " " cord " "
May 6	Part Kennedy Twp.	0.1	3	Pierre Verhagen, Box 1438, Cochrane, Ontario	spruce pulpwood balsam pulpwood	2.50 2.65	0.55 0.80	2.80 1.40	5.85 4.85	" " "
May 6	Part Kennedy Twp.	0.1	2	Laurent Desharnais, Norembege, Ontario	spruce pulpwood balsam pulpwood	1.05 1.00	0.55 0.80	2.80 1.40	4.40 3.20	" " "
May 7	Part Blount Twp.	0.1	2	Edouard Clement, Norembege, Ontario	spruce pulpwood balsam pulpwood	0.75 1.00	0.55 0.80	2.80 1.40	4.10 3.20	" " "
May 8	Part Pringle Twp.	0.4	1	Alfred Jones, Trout Creek, Ontario	poplar pulpwood w. birch pulpwood balsam pulpwood	0.90 0.90 nil	0.20 0.20 0.30	0.50 0.50 1.40	1.60 1.60 1.70	" " "
May 9	Part Evelyn Twp.	0.1	3	H. L. Quinn, 340 Cedar Street South, Timmins, Ontario	j. pine sawlogs	0.0305	0.006	0.0235	0.06	" cu. ft.
May 9	Part Shaw Twp.	0.1	3	Garry Quinn, 144 Kirby Avenue, Timmins, Ontario	spruce pulpwood	1.60	0.60	2.80	5.00	" cord
May 9	Part Matheson Twp.	0.1	3	Oscar J. Frank, Porquis Junction, Ontario	spruce pulpwood balsam pulpwood	1.75 1.50	0.60 0.85	2.80 1.40	5.15 3.75	" " "
May 23	Part Abinger Twp.	0.2	2	Verner Gutz, Palmer Rapids, Ontario	spruce sawlogs balsam sawlogs hemlock sawlogs	2.00 2.00 2.00	10.00 6.00 3.00	4.00 4.00 3.00	16.00 12.00 8.00	M.B.M. " " " "

Continued on page 332

TIMBER SALES FROM APRIL 1st, 1963 TO MARCH 31st, 1964

Date Sold 1963	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid	Bonus \$	Dues \$	Total \$
					y. birch sawlogs	4.00	7.00	5.00	16.00
					w. birch sawlogs	2.00	3.50	1.50	7.00
					maple sawlogs	6.00	5.00	5.00	16.00
					basswood saw-logs	4.00	7.00	5.00	16.00
					oak sawlogs	2.00	5.00	5.00	12.00
					ash sawlogs	2.00	3.00	5.00	10.00
					elm sawlogs	2.00	3.00	5.00	10.00
					cherry sawlogs	nil	3.00	5.00	8.00
					beech sawlogs	nil	8.50	1.50	10.00
					poplar sawlogs	2.00	3.50	1.50	7.00
June 24	Part Laurier Twp.	0.6	3	James R. MacIntosh, Box 145, South River, Ontario	w. pine sawlogs	21.50	7.00	5.00	33.50
					w. spruce sawlogs	17.50	7.00	4.00	28.50
					elm sawlogs	15.50	2.00	5.00	22.50
					maple sawlogs	14.50	3.00	5.00	22.50
					y. birch sawlogs	18.00	12.00	5.00	35.00
June 25	Parcel # 4 G.T.P. Block 10	2.1	2	Frank F. Bowman, Hudson, Ontario	j. pine pulpwood	0.20	nil	2.00	2.20
					spruce pulpwood	0.45	0.20	2.80	3.45
					balsam pulpwood	0.20	0.20	1.40	1.80
June 28	Part Nesbitt and Beck Twps.	0.5	3	V. Trumbull, Box 1530, Cochrane, Ontario	spruce pulpwood	2.19	0.30	2.80	5.29
					balsam pulpwood	2.19	0.20	1.40	3.79
June 28	Part Fournier Twp.	0.1	2	Charles Shier & Sons, Hunta, Ontario	spruce pulpwood	1.30	0.15	2.80	4.25
July 4	Drum Island, Shoal Lake	0.3	1	Devlin Timber Co., Ltd., 59 Drewry Drive, Kenora, Ontario	w. pine sawlogs	0.005	0.037	0.033	0.075
					r. pine sawlogs	0.005	0.037	0.033	0.075
					spruce sawlogs	0.005	0.027	0.033	0.065
July 5	Area West of Gisele Lake	2.3	1	Nickle Mining and Smelting Corp., Suite 1600, 100 Adelaide St. W., Toronto 1, Ontario	j. pine sawlogs	nil	0.0065	0.0235	0.03
					spruce sawlogs	nil	0.0112	0.0330	0.0442
					j. pine pulpwood	nil	0.55	2.00	2.55
					spruce pulpwood	nil	0.95	2.80	3.75
					balsam pulpwood	nil	0.35	1.40	1.75
July 5	Part Home Township	6.1	3	Raymond Haapala, 401 Egan Street, Port Arthur, Ontario	j. pine sawlogs	0.0175	0.0115	0.0235	0.0525
					j. pine pulpwood	0.85	0.25	2.00	3.10
					w. birch pulpwood	1.00	0.25	0.50	1.75
					poplar pulpwood	1.10	0.25	0.50	1.85
July 5	Parcel # 3 G.T.P. Block 10	2.2	2	R. E. Bowman, Box 66 Hudson, Ontario	j. pine pulpwood	0.10	nil	2.00	2.10
					spruce pulpwood	0.20	0.20	2.80	3.20



July 10	Part Evelyn Twp.	1.0	1	Pedskalny Timber Co. Ltd., Nellie Lake, Ontario	spruce pulpwood balsam pulpwood	2.05 3.50	0.50 0.70	2.80 1.40	5.35 5.60	Per cord "
July 10	Part Brougham Twp.	0.8	1	David Dick, R.R. #1, Hyndford, Ontario	w. pine sawlogs r. pine sawlogs w. spruce sawlogs balsam sawlogs cedar sawlogs maple sawlogs basswood sawlogs w. birch sawlogs poplar sawlogs w. pine pulpwood r. pine pulpwood w. spruce pulpwood balsam pulpwood	nil nil nil nil nil 1.00 1.00 nil 2.50 nil nil nil nil	3.00 3.00 4.00 2.00 2.00 3.00 3.00 1.50 2.50 1.40 1.40 2.80 1.40	5.00 5.00 4.00 4.00 3.00 5.00 5.00 1.50 1.50 1.40 1.40 2.80 1.40	8.00 8.00 8.00 6.00 5.00 8.00 9.00 5.00 4.00 1.40 1.40 2.80 1.40	" " " " " " " " " cord " " " "
July 17	Part Brudenell Twp.	0.6	1	Frank H. Miller, R.R. #2, Eganville, Ontario	w. pine sawlogs r. pine sawlogs spruce sawlogs balsam sawlogs cedar sawlogs y. birch sawlogs w. birch sawlogs maple sawlogs basswood sawlogs oak sawlogs ash sawlogs elm sawlogs beech sawlogs poplar sawlogs	2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	5.00 5.00 5.00 4.00 4.00 7.00 4.50 5.00 5.00 2.00 2.00 2.00 2.50 2.50	5.00 5.00 4.00 4.00 3.00 5.00 1.50 5.00 7.00 5.00 5.00 5.00 1.50 1.50	12.00 12.00 11.00 10.00 9.00 14.00 8.00 12.00 14.00 9.00 9.00 9.00 6.00 6.00	" " " " " " " " " " " " " "
July 19	Part Livingstone Twp.	12.8	4	W. W. Purdy, 757 Water Street, Peterborough, Ontario	w. pine sawlogs spruce sawlogs balsam sawlogs hemlock sawlogs y. birch sawlogs maple sawlogs	nil nil nil 10.00 5.50	10.00 5.00 4.00 2.00 10.00 3.00	5.00 4.00 4.00 3.00 5.00 5.00	15.00 9.00 8.00 5.00 25.00 13.50	" " " " " "

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Aug. 30	Part Joan Twp.	0.3	1	William Milne & Sons Ltd., Temagami, Ontario	spruce pulpwood balsam pulpwood hardwood pulpwood	nil nil nil	2.80 1.40 0.50	2.80 1.75 0.60	Per cord " " "
Sept. 4	Area SW of Grassy Lake, Territorial District of Rainy River	2.6	1	Lundy Bros. (Emo) Ltd., Box 135, Emo, Ontario	r. pine sawlogs spruce sawlogs j. pine pulpwood spruce pulpwood	nil nil 0.05 0.05	5.00 5.00 2.00 2.80	12.00 10.00 7.00 2.20 3.55	M.B.M. " " cord "
Sept. 10	Part Wells Twp.	0.4	5	Midway Lumber Mills Limited, Thessalon, Ontario	w. pine sawlogs y. birch sawlogs w. birch sawlogs maple sawlogs oak sawlogs	5.00 10.00 10.00 6.00 6.00	5.00 5.00 1.50 5.00 5.00	20.00 35.00 25.00 16.00 16.00	M.B.M. " " " "
Oct. 11	Area E. of Knickerbocker Inlet, Lake of the Woods	1.0	1	Walter Larson, Box 245, Sioux Narrows, Ontario	j. pine pulpwood spruce pulpwood	nil nil	2.00 2.80	2.55 4.50	cord "
Oct. 11	Area NE of Cross Inlet, Lake of the Woods	1.1	1	Cecil G. Treadway, Box 95, Sioux Narrows, Ontario	j. pine pulpwood spruce pulpwood	nil nil	2.00 2.80	2.55 4.50	" "
Oct. 25	Part Gould Twp.	0.1	4	James H. Noble, R.R. #2, Thessalon, Ontario	y. birch sawlogs maple sawlogs hemlock sawlogs spruce sawlogs	15.00 5.00 nil nil	5.00 5.00 3.00 4.00	40.00 15.00 5.00 12.00	M.B.M. " " "
Oct. 30	Compartment 46B Part Ashby Twp.	0.2	2	Thomas J. Neuman, Palmer Rapids, Ontario	w. pine sawlogs spruce sawlogs hemlock sawlogs maple sawlogs y. birch sawlogs w. birch sawlogs beech sawlogs ash sawlogs basswood sawlogs poplar sawlogs hardwood pulpwood	4.00 4.00 2.00 6.00 8.00 5.00 2.00 3.00 1.00 0.25	5.00 4.00 3.00 5.00 10.00 1.50 1.50 5.00 5.00 1.50 0.50	17.00 17.00 9.00 18.00 23.00 10.00 7.00 13.00 23.00 6.00 1.00	M.B.M. " " " " " " Per M.B.M. " " " cord

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TIMBER SALES FROM APRIL 1st, 1963 TO MARCH 31st, 1964

Date Sold 1963	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$		
Oct. 30	Compartment #76 Part Ashby Twp.	0.2	2	Thomas J. Neuman, Palmer Rapids, Ontario	spruce sawlogs w. pine sawlogs balsam sawlogs hemlock sawlogs cedar sawlogs maple sawlogs y. birch sawlogs w. birch sawlogs oak sawlogs beech sawlogs ash sawlogs basswood sawlogs poplar sawlogs hardwood pulpwood	4.00 4.00 4.00 2.00 3.00 8.00 8.00 5.00 5.00 2.00 3.00 8.00 1.00 0.25	8.00 9.00 9.00 4.00 4.00 7.00 10.00 3.50 5.00 3.50 5.00 10.00 3.50 0.25	5.00 4.00 4.00 3.00 3.00 5.00 5.00 1.50 5.00 1.50 5.00 5.00 1.50 0.50	17.00 17.00 17.00 9.00 10.00 20.00 23.00 10.00 15.00 7.00 13.00 23.00 6.00 1.00	" " " " " " " " " " " " " cord	M.B.M. " " " " " " " " " " " " "
Oct. 31	Compartment 46A Part Ashby Twp.	0.2	1	Wallace Weichenthal, Hardwood Lake, Ontario	w. pine sawlogs spruce sawlogs hemlock sawlogs cedar sawlogs maple sawlogs y. birch sawlogs w. birch sawlogs oak sawlogs beech sawlogs basswood sawlogs poplar sawlogs hardwood pulpwood	5.00 3.50 2.00 1.00 4.50 2.00 3.00 2.00 3.00 2.50 2.00 2.00	8.00 9.00 4.00 4.00 7.00 10.00 3.50 5.00 3.50 10.00 3.50 0.25	5.00 4.00 3.00 3.00 5.00 5.00 1.50 5.00 1.50 5.00 1.50 0.50	18.00 16.50 9.00 8.00 16.50 17.00 8.00 12.00 8.00 17.50 7.00 0.75	" " " " " " " " " " " " cord	M.B.M. " " " " " " " " " " " "
Oct. 31	Part Mulock Twp.	0.3	4	Ross Lake Lumber Ltd., 33A Milford Crescent, North Bay, Ontario	spruce sawlogs y. birch sawlogs maple sawlogs balsam pulpwood maple pulpwood	nil 20.00 4.00 nil nil	6.00 10.00 3.00 0.60 nil	4.00 5.00 5.00 1.40 0.50	10.00 35.00 12.00 2.00 0.50	" " " " "	M.B.M. " " " cord
Oct. 31	Area at the intersection of Minaki Road and C.N.R.	0.3	7	Arthur Durand, Minaki, Ontario	j. pine pulpwood spruce pulpwood balsam pulpwood	0.50 1.85 0.60	0.50 1.45 0.60	2.00 2.80 1.40	3.00 6.10 2.60	" " "	" " "
Nov. 4	Part Haycock Twp.	0.5	3	Arthur Leydier, P.O. Box 54, Kenora, Ontario	j. pine pulpwood spruce pulpwood	0.70 1.75	0.55 0.95	2.00 2.80	3.25 5.50	" "	" "





TIMBER SALES FROM APRIL 1st, 1963 TO MARCH 31st, 1964

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TIMBER SALES FROM APRIL 1st, 1963 TO MARCH 31st, 1964

Date Sold 1963	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$	
Dec. 9	Part Airy Twp.	0.3	2	Ray Zelney, Barry's Bay, Ontario	maple sawlogs y. birch sawlogs w. birch sawlogs beech sawlogs ash sawlogs hemlock sawlogs spruce sawlogs balsam sawlogs cedar sawlogs	5.00 8.00 1.50 0.50 1.50 3.00 3.00 2.00 4.00 0.50	2.50 10.00 3.50 0.50 2.50 2.00 6.00 4.00 1.00	5.00 5.00 1.50 1.50 5.00 3.00 4.00 3.00	12.50 23.00 6.50 2.50 9.00 8.00 13.00 10.00 4.50	" M.B.M." " " " " " " " "
Dec. 9	Part Galway Twp.	0.4	1	Jack Austin & Sons Ltd., Kimmount, Ontario	w. pine sawlogs r. pine sawlogs spruce sawlogs hemlock sawlogs balsam sawlogs cedar sawlogs maple sawlogs oak sawlogs poplar sawlogs basswood sawlogs w. birch sawlogs ash sawlogs	nil nil 2.00 nil nil nil 3.00 3.00 nil 2.00 nil nil	10.00 10.00 9.00 5.00 7.00 5.00 7.00 4.50 8.00 2.50 3.00	5.00 5.00 4.00 3.00 3.00 3.00 5.00 1.50 5.00 1.50 5.00	15.00 15.00 15.00 8.00 12.00 8.00 15.00 6.00 15.00 4.00 8.00	" M.B.M." " " " " " " " " " "
Dec. 10	Part Ashby Township	0.2	2	George Stein, Schutt, Ontario	w. pine sawlogs spruce sawlogs cedar sawlogs maple sawlogs basswood sawlogs y. birch sawlogs oak sawlogs w. birch sawlogs poplar sawlogs hardwood pulpwood	7.00 7.00 3.00 5.00 7.00 7.00 3.00 4.00 4.00 0.25	8.00 9.00 4.00 6.00 8.00 8.00 6.00 4.00 2.00 0.25	5.00 4.00 3.00 5.00 5.00 5.00 5.00 1.50 1.50 0.50	20.00 20.00 10.00 16.00 20.00 20.00 14.00 8.50 7.50 1.00	" " " " " " " " " " M.B.M."
Dec. 16	Part Herschel Township	0.2	5	Lambert Wasmund, Maple Leaf, Ontario	spruce sawlogs balsam sawlogs hemlock sawlogs cedar sawlogs	5.00 3.00 4.00 5.00	11.00 6.00 4.00 4.00	4.00 4.00 3.00 3.00	20.00 13.00 11.00 12.00	" M.B.M." " " "



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TIMBER SALES FROM APRIL 1st, 1963 TO MARCH 31st, 1964

Date Sold 1963	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$	
Jan. 10 1964	Part Niven Township	0.3	3	Max W. Miller & Sons Ltd., Box 136, Eganville, Ontario	w. pine sawlogs r. pine sawlogs poplar sawlogs r. pine poles to 10 cu. ft. 10 to 20 cu. ft. 20 to 30 cu. ft. over 30 cu. ft.	10.00 10.00 3.00 0.04 0.05 0.06 0.10	7.00 7.00 1.00 0.03 0.03 0.03 0.03	5.00 5.00 1.50 0.03 0.04 0.05 0.06	22.00 22.00 5.50 0.10 0.12 0.14 0.19	" M.B.M. " " cu. ft. " " " "
Jan. 17 1964	Part McConkey Township	0.3	3	Harold Berger, Arnstein, Ontario	y. birch sawlogs maple sawlogs basswood sawlogs hemlock sawlogs elm sawlogs ash sawlogs oak sawlogs	14.00 9.00 4.00 3.00 7.00 4.00 5.00	13.00 4.00 9.00 6.00 6.00 3.00 7.00	5.00 5.00 5.00 3.00 5.00 5.00 5.00	32.00 18.00 18.00 12.00 18.00 12.00 17.00	" M.B.M. " " " " " "
Jan. 17 1964	Part Gurd Township	0.5	8	Thomas Booth, Commanda, Ontario	maple sawlogs y. birch sawlogs beech sawlogs elm sawlogs oak sawlogs	7.50 6.00 1.00 2.00 6.00	3.00 5.00 2.50 3.00 4.00	5.00 5.00 1.50 5.00 5.00	15.50 16.00 5.00 10.00 15.00	" " " " "
Jan. 17 1964	Part Cowan and Wark Townships	1.2	1	G. K. Stringer, Box 998, South Foreupine, Ontario	spruce sawlogs poplar sawlogs spruce pulpwood balsam pulpwood	0.002 0.001 0.10 0.10	0.002 0.006 0.20 nil	0.033 0.006 2.80 1.40	0.037 0.013 3.10 1.50	" cu. ft " " cord "
Jan. 17 1964	Part Cherriman Township	3.2	3	Velmar Construction (Sudbury) Ltd., Guilletville, Ontario	w. pine pulpwood r. pine pulpwood spruce pulpwood j. pine pulpwood balsam pulpwood poplar pulpwood y. birch pulpwood	0.12 0.02 0.20 0.17 0.10 0.12 0.32	0.10 0.10 0.50 0.25 0.10 0.50 0.50	1.40 1.40 2.80 2.00 1.40 0.50 0.50	1.62 1.52 3.50 2.42 1.60 1.12 1.32	" " " " " " "
					y. birch pulpwood	0.32	0.50	0.50	1.32	"



CROWN TIMBER LICENCES 1963-64  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date	Description of Area	Name of Licensee	Expiry Date	Type of Transaction	
1009/63	Apl. 10/63	Parts Livingstone and McClintock Twp.	Weyerhaeuser Canada Ltd. Sault Ste. Marie, Ontario	March 31st, 1965	Re-issue
1019/63	Apl. 10/63	Parts Mowat and Blair Twp.	Armand Duval, Noelville, Ontario	March 31st, 1966	Re-issue
1078/63	Apl. 17/63	Parts Twp. 10H, 11H, 22 Ranges 17 and 18	Sheppard and Morse Limited, Chapleau, Ontario	March 31st, 1964	New transaction
1094/63	Apl. 17/63	Parts Sherborne, McClintock, Livingstone and Lawrence Twp.	Hay and Co. Limited, Woodstock, Ontario	March 31st, 1963	Re-issue
1241/63	May 2/63	Part Massey Twp.	Malette Lumber Limited, 373 Commercial Avenue, Timmins, Ontario	March 31st, 1964	New transaction
1342/63	May 9/63	Part McMaster Twp.	Northern Plywoods Limited, Nipigon, Ontario	March 31st, 1964	New transaction
1343/63	May 9/63	Parts Stewart and Merrick Twp.	James A. Gibson and Sons, Box 734, North Bay, Ontario	March 31st, 1964	New transaction
1344/63	May 9/63	Parts Butt and McCraney Twp.	Werlich Products Limited, 131 Bishop Street, Preston, Ontario	March 31st, 1972	New transaction
1345/63	May 9/63	Part Little Twp.	Pedskalny Timber Co. Ltd., Nellie Lake, Ontario	March 31st, 1966	Re-issue
1366/63	May 9/63	Namakon Redhorse Management Unit	Namakon Timber Co. Ltd., 500 Colonization Road West, Fort Frances, Ontario	March 31st, 1966	Re-issue
1367/63	May 9/63	Part Burt Twp.	Kokotow Lumber Ltd., 5 McCamus Avenue, Kirkland Lake, Ontario	March 31st, 1965	Re-issue
1480/63	May 23/63	Part Janes Twp.	Louis Brun, Field, Ontario	March 31st, 1964	New transaction



1525/63	May	23/63	Schedule "A" Districts of Timiskaming and Sudbury	Howard Smith Paper Mills Ltd., Suite 840, Sun Life Building, Montreal 2, Quebec	March 31st, 1970	New transaction
1587/63	May	30/63	Part Davis Twp.	Isidore Roy, 175 Front Street, Sturgeon Falls, Ontario	March 31st, 1964	New transaction
1588/63	May	30/63	Part Hillary Twp.	Rudolph McChesney Lumber Co. Ltd., 267 Kraft Road, Timmins, Ontario	March 31st, 1969	Re-issue
1590/63	May	30/63	All Bernhardt and parts Black, Gauthier and McVittie Twp.	Grant and Wilson, New Liskeard, Ontario	March 31st, 1965	New transaction
1592/63	May	30/63	Part Twp. 143	A. G. Wilson, Boulter, Ontario	March 31st, 1965	Re-issue
1776/63	June	13/63	Part Leonard Twp.	William Pollock and Son Ltd., Englehart, Ontario	March 31st, 1966	Re-issue
1831/63	June	20/63	Part Hawkins Twp.	Oba River Timber Co. Ltd., Box 487, Hearst, Ontario	March 31st, 1964	New transaction
1832/63	June	20/63	E½ of Churchill and all of Ogilvie, Fawcett and MacMurchy Twp.	Wesmak Lumber Co. Ltd., Sudbury, Ontario	March 31st, 1973	Re-issue
1833/63	June	20/63	Part Gross Twp.	Woolings Forest Products Ltd., Englehart, Ontario	March 31st, 1966	New transaction
2007/63	July	4/63	Part Beniah Twp.	Henry Swanson, Box 1290, Cochrane, Ontario	March 31st, 1965	New transaction
2061/63	July	11/63	Part McVittie, Hearst, Skead, Ratray, Gauthier and Bayly Twp.	Kokotow Lumber Ltd., 5 McCamus Avenue, Kirkland Lake, Ontario	March 31st, 1967	New transaction
2063/63	July	11/63	Parts Boston, Gauthier and Lebel Twp.	Kirkland Timber Ltd. Kirkland Lake, Ontario	March 31st, 1965	Re-issue
2064/63	July	11/63	Part Bannerman Twp.	Maurice Lecours, Box 1000, Hearst, Ontario	March 31st, 1964	New transaction
2128/63	July	18/63	Parts Turner, Seagram, Delhi, DeMorest, Clary, Armagh and Belfast Twp.	George Gordon & Co. Ltd., Cache Bay, Ontario	March 31st, 1972	Re-issue
2129/63	July	18/63	Part Territorial District of Thunder Bay (Spruce River area)	Northern Forest Products Ltd., Port Arthur, Ontario	March 31st, 1964	New transaction

CROWN TIMBER LICENCES 1963-64  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date	Description of Area	Name of Licensee	Expiry Date	Type of Transaction
2130/63	July 18/63	Part Floranna Twp.	J. E. Martel and Sons Lumber Ltd., Chapleau, Ontario	March 31st, 1965 New transaction
2131/63	July 18/63	Part District of Chochrane (Part North French River)	The Indian Affairs Branch, Department of Citizenship and Immigration, Box 896, North Bay, Ontario	March 31st, 1972 Re-issue
2166/63	July 18/63	Part Big Island, Lake of the Woods	W. Norman Dalseg, Morson, Ontario	March 31st, 1966 Re-issue
2167/63	July 18/63	Ossian Twp. and parts Katrine, McVittie and McGarry Twp.	Kerr-Addison Gold Mines Ltd. Virginiatown, Ontario	March 31st, 1966 Re-issue
2168/63	July 18/63	Part North Algona Twp.	John Libby Jnr., Golden Lake, Ontario	March 31st, 1964 New transaction
2169/63	July 18/63	Area north of Bridges Twp.	Widjitiwin Corporation, St. Mary's Indian School, Box 40, Kenora, Ontario	March 31st, 1966 New transaction
2170/63	July 18/63	Part Territorial District of Sudbury	Pineland Timber Co. Ltd., Sudbury, Ontario	March 31st, 1978 New transaction
2265/63	Aug. 1/63	Part Melba Twp.	Woollings Forest Products Ltd., Englehart, Ontario	March 31st, 1964 New transaction
2282/63	Aug. 1/63	Parts Arnold, Gauthier, Katrine and McVittie Twp.	Kirkland Timber Ltd., Box 454, Kirkland Lake, Ontario	March 31st, 1966 Re-issue
2340/63	Aug. 1/63	Part Niven Twp.	Cooper-Noik Lumber Ltd., Box 516, Pembroke, Ontario	March 31st, 1964 New transaction
2408/63	Aug. 16/63	Area in the unsurveyed Territorial District of Kenora (Big Handle Lake area)	Charles Jones, Red Lake Road P.O., Ontario	March 31st, 1964 New transaction
2410/63	Aug. 16/63	Part Griesinger Twp. and an area to the south	William George Reid, 320 Armit Avenue, Fort Frances, Ont.	March 31st, 1966 Re-issue

2411/63	Aug. 16/63	An area in the unsurveyed Territorial District of Kenora (Minnata Lake)	Lac Seul Land and Lumber Co., Ltd. Port Arthur, Ontario	March 31st, 1964	New transaction
2504/63	Aug. 16/63	Part Langmuir Twp.	Feldman Timber Co. Ltd., Timmins, Ontario	March 31st, 1966	Re-issue
2505/63	Aug. 16/63	Part Denton Twp.	Feldman Timber Co. Ltd., Timmins, Ontario	March 31st, 1966	Re-issue
2506/63	Aug. 16/63	Area in the unsurveyed Territorial District of Kenora (Cedar Lake area)	Rene Ross, Red Lake Road P.O., Ontario	March 31st, 1964	New transaction
2507/63	Aug. 16/63	Area in the unsurveyed Territorial District of Kenora (Richmond Lake area)	Joseph Kirouac, Red Lake Road P.O., Ontario	March 31st, 1964	New transaction
2557/63	Aug. 22/63	Part Dickson Twp.	Murray Bros. Lumber Co. Ltd. Barry's Bay, Ontario	March 31st, 1965	New transaction
2558/63	Aug. 22/63	Parts Hartle and Burnaby Twps.	Joseph Sevigny, 1723 Algonquin Avenue, North Bay, Ontario	March 31st, 1966	Re-issue
2559/63	Aug. 22/63	Parts Hill and Racine Twps.	A. & L. Lafreniere Lumber Ltd. Chapleau, Ontario	March 31st, 1967	New transaction
2565/63	Aug. 22/63	Part Edgar Twp.	J. Mohns & Sons, Petawawa, Ontario	March 31st, 1964	New transaction
2651/63	Aug. 29/63	Schedule "A" and "B", District of Algoma	Hay & Company Ltd., Huntsville, Ontario	March 31st, 1972	Re-issue
2652/63	Aug. 29/63	Parts Charlton, Lyman and Grant Twps.	W. Davidson Lumber Co., Ltd. Sturgeon Falls, Ontario	March 31st, 1964	New transaction
2800/63	Sep. 13/63	Parts Head, Bronson and Rolph Twps.	Jake E. Stewart Ltd., Chalk River, Ontario	March 31st, 1966	Re-issue
2825/63	Sep. 13/63	Part Dunmore Twp.	H. S. Rodgers Lumber Ltd., Englehart, Ontario	March 31st, 1966	New transaction
2919/63	Sep. 27/63	An area situated in the unsurveyed Territorial District of Kenora (Clay Lake area)	H. Gonske, Quibell, Ontario	March 31st, 1964	New transaction
2945/63	Oct. 10/63	Area at Eaglehead Lake	Abitibi Power and Paper Co. Ltd., 408 University Ave., Toronto, Ont.	March 31st, 1964	New transaction

CROWN TIMBER LICENCES 1963-64  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date	Description of Area	Name of Licensee	Expiry Date	Type of Transaction
2946/63	Oct. 10/63 As shown in Schedule "A" (Montreal River area)	E. B. Eddy Co., Hull, Quebec	March 31st, 1973	New transaction
2947/63	Oct. 10/63 Part Goodfellow Twp.	Abitibi Power & Paper Co., 408 University Ave., Toronto, Ont.	March 31st, 1964	New transaction
2948/63	Oct. 10/63 Parts of Lyman and Notman Twps.	H. P. Lamothe Lumber Co. Ltd., 347 Sherbrooke St., North Bay, Ont.	March 31st, 1964	New transaction
3056/63	Oct. 10/63 Part Guthrie Twp.	Jerry Noik, Pembroke, Ontario	March 31st, 1966	New transaction
3241/63	Oct. 24/63 As shown in Schedule "A", Parcels 1, 2A, 2B and 3	Ontario-Minnesota Pulp & Paper Co. Ltd., Fort Frances, Ontario	March 31st, 1984	New transaction
3288/63	Oct. 24/63 Part Niven Twp.	Herb Shaw and Sons Limited, 137 McKay Street, Pembroke, Ontario	March 31st, 1966	New transaction
3292/63	Oct. 24/63 Part Burt Twp.	Kokotow Lumber Ltd., 5 McCamus Avenue, Kirkland Lake, Ontario	March 31st, 1965	New transaction
3293/63	Oct. 24/63 Unsurveyed Territory in the Territorial District of Kenora (Hagen Lake area)	Joseph Leutschaft, Quibell, Ontario	March 31st, 1964	New transaction
3296/63	Oct. 24/63 Part Stratton Twp.	Consolidated Paper Corporation Ltd., Pembroke, Ontario	March 31st, 1966	New transaction
3297/63	Oct. 24/63 Unsurveyed Territory in the Territorial District of Kenora (Florence Lake area)	G. A. Querel, Vermilion Bay, Ontario	March 31st, 1964	New transaction
3312/63	Oct. 31/63 South of Highway 11, East of Nym Lake	Jim Gibson, Box 433, Atikokan, Ontario	March 31st, 1964	New transaction
3312/63	Oct. 31/63 Area South of Highway 120	Frant Timber Limited, 917 Third Street E., Fort Frances, Ontario	March 31st, 1964	New transaction



3312/63	Oct.	31/63	Quetico and Rainy Lake Management Units	Ontario-Minnesota Pulp & Paper Co., Fort Frances, Ontario	March 31st, 1983	New transaction
3313/63	Oct.	31/63	Parts Clive and Adair Twps.	J. H. Normick, Ltd., La Sarre, Quebec	March 31st, 1964	New transaction
3315/63	Oct.	31/63	All Murdock, Alcorn, Paul and Collins Twps.	K. W. Biglow, Ltd. Devon, Ontario	March 31st, 1973	New transaction
3316/63	Oct.	31/63	Area north of Rogers Twp.	Polar Lumber Co. Ltd., Hearst, Ontario	March 31st, 1966	New transaction
3317/63	Oct.	31/63	Area in unsurveyed territory of Thunder Bay (Black Sturgeon Lake area)	Northern Plywoods Limited, Nipigon, Ontario	March 31st, 1964	New transaction
3318/63	Oct.	31/63	Area in the Territorial District of Kenora (Ord River area)	Lucien Legault, Box 734, Dryden, Ontario	March 31st, 1964	New transaction
3534/63	Nov.	14/63	Part Chambers Twp.	Temagami Timber Co., Ltd., Goward, Ontario	March 31st, 1966	Re-issue
3536/63	Nov.	14/63	Part Carscallen Twp.	Feldman Timber Co. Ltd., Timmins, Ontario	March 31st, 1964	New transaction
3537/63	Nov.	14/63	Part Skeet Island	Frank Peterson, P.O. Box 358, Kenora, Ontario	March 31st, 1966	New transaction
3580/63	Nov.	21/63	Parts Lockhart, Jocko, Eddy, Mulock, French, Butler, etc., Twps.	Consolidated Paper Corporation, Pembroke, Ontario	March 31st, 1972	Re-issue
3581/63	Nov.	21/63	Part Twp. 12E	Kormak Lumber Co. Ltd., 6 Dufferin Street, Sudbury, Ontario	March 31st, 1966	New transaction
3582/63	Nov.	21/63	North of Glenorchy on C.N.R.	Pearson Forest Products Ltd. Glenorchy, Ontario	March 31st, 1968	New transaction
3593/63	Nov.	21/63	Part Notman Twp.	The Frawley Lake Lumber Co. Ltd., Powassan, Ontario	March 31st, 1964	New transaction
3607/63	Nov.	21/63	Lake Nipigon area	St. Lawrence Corporation, Ltd., Montreal, Quebec	March 31st, 1984	New transaction
3610/63	Nov.	21/63	Part Gould Twp.	T. G. Fleron, Thessalon, Ontario	March 31st, 1971	New transaction
3703/63	Dec.	5/63	Parts Phelps and Olrig Twps.	Lakewoods Timber Ltd., Tweed, Ontario	March 31st, 1966	Re-issue

CROWN TIMBER LICENCES 1963-64  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date	Description of Area	Name of Licensee	Expiry Date	Type of Transaction	
3708/63	Dec. 5/63	Parts Gviffith and Lyndoch Twps.	Leonard John Gulick, Palmer Rapids, Ontario	March 31st, 1965	Re-issue
3709/63	Dec. 5/63	Part Bronson Twp.	H. Kutschke & Son Ltd., Pembroke, Ontario	March 31st, 1965	New transaction
3710/63	Dec. 5/63	Parts Le Roche, Cynthia and Belfast Twps.	A. B. Gordon Ltd., c/o William Milne & Sons Ltd., Timagami, Ontario	March 31st, 1972	Re-issue
3837/63	Dec. 12/63	Part North Algona Twp.	Department of Citizenship and Immigration, Indian Affairs Branch, Golden Lake Band, Golden Lake, Ontario	March 31st, 1964	New transaction
3840/63	Dec. 12/63	Parts Hepburn and Sargeant Twps.	J. H. Normick, Ltd., La Sarre, Quebec	March 31st, 1964	New transaction
3892/63	Dec. 12/63	Parts Murchison, Bower, Airy, Clancy, Preston, Sproule, and Dickson Twps.	Lakewoods Timber Ltd., Tweed, Ontario	March 31st, 1966	Re-issue
3906/63	Dec. 19/63	Part Jamieson Twp. (Smooth Rock Falls Concession)	Leo Ouellette, 536 Eyre Boulevard, Timmins, Ontario	March 31st, 1964	New transaction
3907/63	Dec. 19/63	Part Sewell Twp.	Leo Lapierre, 418 Wilson Avenue, Timmins, Ontario	March 31st, 1966	New transaction
3933/63	Dec. 19/63	Block 4, Niven Twp.	John Bloskie, Wilno, Ontario	March 31st, 1965	New transaction
3936/63	Dec. 19/63	Part Phelps Twp.	Whitman Lumber Co., Ltd., North Bay, Ontario	March 31st, 1966	Re-issue
4050/63	Dec. 30/63	Part Leo, Medina, Canton, Le Roche, Cynthia, Strathy, Cassels, Best, Gillies Limit, Coleman, Kittson and DaneTwps.	Canadian Johns-Manville, 565 Lakeshore Road E., Port Credit, Ontario	March 31st, 1984	Re-issue

7/64	Jan.	2/64	Parts Twps. 137 and 138	A. G. Wilson, Boulter, Ontario	March 31st, 1966	Re-issue
21/64	Jan.	9/64	Unsurveyed area South of G.T.P. Block 2	A. E. Jacobson Lumber Co. Ltd., 223 South Hill Street, Port Arthur, Ontario	March 31st, 1966	Re-issue
22/64	Jan.	9/64	Part Fournier Twp.	M. Owens, Cochrane, Ontario	March 31st, 1966	Re-issue
30/64	Jan.	9/64	Part Bristol Twp.	Mountjoy Timber Co., Ltd., Timmins, Ontario	March 31st, 1965	Re-issue
143/64	Jan.	16/64	Part Kenogaming Twp.	S. S. Johnson Ltd., South Porcupine, Ontario	March 31st, 1967	New transaction
144/64	Jan.	16/64	Parts District of Kenora and Rainy River (Quetico Park)	Jim Mathieu Lumber Ltd., Sapawe, Ontario	March 31st, 1964	New transaction
196/64	Jan.	23/64	Part Proctor Twp.	A. G. Wilson, Boulter, Ontario	March 31st, 1965	New transaction
294/64	Jan.	30/64	Part Kennedy Twp.	T. B. Skidmore Forest Products, Box 911, Cochrane, Ontario	March 31st, 1966	Re-issue
295/64	Jan.	30/64	Part Burt Twp.	Kokotow Lumber Ltd., 5 McCamus Avenue, Kirkland Lake, Ontario	March 31st, 1967	New transaction
359/64	Feb.	6/64	Parts Sharpe and Davidson Twps.	Kirkland Timber Ltd., Kirkland Lake, Ontario	March 31st, 1966	Re-issue
446/64	Feb.	6/64	Part Aldina Twp.	Alfred E. Winslow, Kakabeka Falls, Ontario	March 31st, 1966	Re-issue
447/64	Feb.	6/64	Area North of Northwest Bay, Rainy Lake	Vernon Armstrong, Devlin, Ontario	March 31st, 1966	Re-issue
458/64	Feb.	13/64	Area West of Reta Lake (Thunder Bay)	Northern Forest Products, P.O. Box 990, Port Arthur, Ontario	March 31st, 1965	New transaction
459/64	Feb.	13/64	Parts Sharpe and Truox Twps.	Wm. Pollock & Son Ltd., Englehart, Ontario	March 31st, 1966	Re-issue
461/64	Feb.	13/64	Part Killarney Twp.	Ward Ednie Pulp & Lumber Co., Ltd., Manitowaning, Ontario	March 31st, 1966	Re-issue
469/64	Feb.	13/64	Part Carscallen Twp.	Feldman Timber Co., Ltd., Timmins, Ontario	March 31st, 1964	New transaction

CROWN TIMBER LICENCES 1963-64  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date	Description of Area	Name of Licensee	Expiry Date	Type of Transaction
532/64	Feb. 13/64	Fort William Crown Management Unit	March 31st, 1973	New transaction
547/64	Feb. 20/64	Parts Fraleigh and Devon Twps.	March 31st, 1966	New transaction
548/64	Feb. 20/64	Parts Lee and Terry Twps.	March 31st, 1966	Re-issue
549/64	Feb. 20/64	Part Cook Twp.	March 31st, 1966	Re-issue
641/64	Feb. 27/64	Parts Chandos and Cardiff Twps.	March 31st, 1972	New transaction
699/64	Feb. 27/64	Twps. 10H, 22 Range XVII, 23 Range XVII, 11H, 22 Range XVIII, and 23 Range XVIII	March 31st, 1965	New transaction
713/64	Feb. 27/64	Part Coleman Twp.	March 31st, 1966	New transaction
731/64	Mch. 5/64	Part Little Twp.	March 31st, 1964	New transaction
732/64	Mch. 5/64	Part Little Twp.	March 31st, 1966	Re-issue
870/64	Mch. 12/64	Part Acadia Twp.	March 31st, 1966	Re-issue
871/64	Mch. 12/64	Part Sewell Twp.	March 31st, 1965	Re-issue
900/64	Mch. 19/64	Part Griffiths Twp.	March 31st, 1967	New transaction
990/64	Mch. 26/64	Part Griesinger Twp.	March 31st, 1968	New transaction

Northern Plywoods Ltd.,  
Nipigon, Ontario

Jack Lankinen,  
West Pearson, Ontario

Woollings Forest Products Ltd.,  
Englehart, Ontario

Woollings Forest Products Ltd.,  
Englehart, Ontario

L. H. Jan,  
Detlor, Ontario

Sheppard & Morse Ltd.  
Chapleau, Ontario

A. J. Burns,  
P.O. Box 7, Latchford, Ontario

Feldman Timber Co., Ltd.,  
Timmins, Ontario

Feldman Timber Co., Ltd.,  
Timmins, Ontario

A. J. Murphy Lumber Co. Ltd.,  
Latchford, Ontario

Leo Lapiere,  
418 Wilson Avenue, Timmins, Ontario

Elmer Krieger,  
Palmer Rapids, Ontario

William George Reid,  
320 Armit Avenue, Fort Frances,  
Ontario



998/64	Mch. 26/64	Part Haines Twp. and lands adjacent thereto	A. E. Jacobson Lumber Co., Ltd., 223 South Hill Street, Port Arthur, Ontario	March 31st, 1966	New transaction
1007/64	Mch. 26/64	Part Twp. 202	Cecil Weaver, Echo Bay, Ontario	March 31st, 1966	Re-issue
1008/64	Mch. 26/64	Area North of Farrington Twp.	George C. B. Smith, Box 121, Fort Frances, Ontario	March 31st, 1968	New transaction
1009/64	Mch. 26/64	Part Penhorwood Twp.	Glengarry Forest Products Ltd., Kirkland Lake, Ontario	March 31st, 1964	New transaction
1014/64	Mch. 26/64	Part Hawkins Twp.	Oba River Timber Co., Ltd., Box 487, Hearst, Ontario	March 31st, 1964	New transaction
1015/64	Mch. 26/64	Parts Lorrain and South Lorrain Twps.	A. G. Wilson, Boulter, Ontario	March 31st, 1966	Re-issue
1016/64	Mch. 26/64	Part Leitch Twp.	M. J. Labelle Co., Ltd., Cochrane, Ontario	March 31st, 1967	New transaction
1025/64	Mch. 26/64	Parts Stanhope and Hindon Twps.	Hunter Lumber Co., Gooderham, Ontario	March 31st, 1965	Re-issue
1035/64	Mch. 26/64	Parts Ramsden and Buckland Twps.	Chapleau Lumber Co., Ltd., Chapleau, Ontario	March 31st, 1967	New transaction

## NOTES

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# *Annual Report*

OF THE MINISTER OF LANDS AND FORESTS

OF THE PROVINCE OF ONTARIO

for the fiscal year ending

MARCH 31, 1965







THE DETAILED

# ANNUAL REPORT

of the

## Minister of Lands and Forests

of the

## PROVINCE OF ONTARIO

For the Year Ending March 31st, 1965



ONTARIO

## DEPARTMENT OF LANDS AND FORESTS

TO HIS HONOUR,

*The Lieutenant-Governor  
of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:

The undersigned begs respectfully to present to your Honour, the Annual Report of the Department of Lands and Forests for the fiscal year beginning April 1st, 1964, and ending March 31st, 1965.



A. KELSO ROBERTS,

*Minister*



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## FOREIGN AID

Four of the Department's professional staff have substantially assisted the resources management programmes of three countries by acting in advisory capacities under the auspices of the Canadian Federal External Aid Programme.

Dr. C. H. D. Clarke, Chief of Fish and Wildlife Branch, spent the first six months of 1965 in Kenya as a consultant on wildlife to the Ministry of Natural Resources and Wildlife. He spent the greater part of his time visiting all the major Game Department and National Parks districts and installations and reporting back to the Permanent Secretary on wildlife management and organizational problems.

R. M. Dixon, Forester in Silviculture Section, spent two years in Chile (1963-65) with a United Nations project. He was responsible for the establishment and organization of a unit dealing with resources surveys and the forestry aspects of land use.

D. A. Skeates, Forester in North Bay District, went to Kenya in 1963 as Forestry Advisor under the Special Commonwealth Aid Programme. He was responsible for Seed Tree Improvement and Species Trials. In 1964, he became Acting Chief Silviculturist and is presently directing forest research studies.

J. Goddard, Geraldton District Biologist, is assisting the government of Tanzania, East Africa, to broaden aspects of its big game management programme. He is conducting studies into the population dynamics and ecology of the black rhinoceros herd at the Ngorongoro Crater. The Tanzania government had requested this assistance as they feared the herd was in danger of being reduced.



## NEW POLICIES

The modernization of the Air Service fleet was commenced with the acquisition of new DeHavilland Turbo-Beaver aircraft to replace standard Beaver aircraft.

The training of Indian fire fighters and the establishment of a 300-man Indian standby fire fighting force was instituted.

A new research programme is to determine a practical classification system for Ontario lakes, based on their potential for fish production. The purpose is to provide a yardstick against which biologists may measure the current production level of any lakes to determine whether that production is less than that which is to be expected over a long period of time.

The possibilities of developing a programme for the analysis of various game species for pesticide residues were explored and arrangements were made to test a small sample in 1965.

Propagation of captive, hardy stocks of native Bobwhite Quail was intensified. (Normandale Game Bird Farm). It is planned to distribute these among private shooting preserve operators for release and propagation.

The culture of stocks of tree and shrub species beneficial to wildlife was started at provincial tree nurseries in southern Ontario. Initial plantings of these cover and food plants will be made on public hunting areas and other public lands.

## ORDER OF ALGONQUIN

Indian dancers provided lively entertainment for thousands of interested spectators who attended the first Order of Algonquin ceremonies held at Algonquin Provincial Park's Lake of Two Rivers, July 11, 1964. Sponsor of the Order, Honourable A. Kelso Roberts, awarded certificates to 37 adults and children.







An Ontario lumber mill, from the air.



Logs being loaded on to a truck in Sault Ste. Marie District.

## ACCOUNTS BRANCH

THE Accounts Branch is responsible for the accounting of the entire Department, the collection of revenue, the payment of expenditures, the administration of The Provincial Land Tax Act, the issuing of fish and wildlife licences (since 1947), the issuing of park permits, the compilation of payrolls, and the preparation of budgets and financial reports.

During the year ended March 31st, 1965, cash receipts of the Department of Lands and Forests totalled \$24,042,163.34. Total cash disbursements amounted to \$30,230,050.37, representing an excess of \$6,187,887.03 in disbursements over receipts.

Total receipts show a nominal increase over the previous year. Sale of Crown timber, hunting licences and park permits account for the revenue increase.

The decrease in disbursements is accounted for by the transfer of the Conservation Authorities Branch to the Department of Energy and Resources Management.

# ACCOUNTS BRANCH

*Chief: R. R. MacBean*

*Assistant Chief: F. M. Baker*

## INTERNAL AUDIT

Internal Audit & Field Inspections

## SYSTEMS & PROCEDURES

Systems Improvement Program

## REVENUE ACCOUNTING

Cash Receiving, Accounts Receivable  
Issue of Fish & Wildlife Licences,  
Park Permits, Timber Accounts, Land Sales,  
Land Tax, Rentals

## EXPENDITURE & GENERAL ACCOUNTING

Payrolls, Accounts Payable  
Accounting Machine Operations

## BUDGET ACCOUNTING

Budget Estimates & Forecasts,  
Financial Reports

## LAND TAX ADMINISTRATION

Assessments, Appeals, Addressograph

## GENERAL

Secretarial  
Department Mail Services



# FINANCIAL REPORT

For the Year ended March 31st, 1965

## 1. Cash Receipts and Disbursements

The following shows the result of operations for the year:

Total — Cash Disbursements .....	\$30,230,050.37
Cash Receipts .....	24,042,163.34

Excess of Disbursements over Receipts ..... \$6,187,887.03

## 2. Comparison of Receipts and Disbursements with those of the Previous Two Years

### (a) Receipts Branch

	Years Ending March 31st		
	1963	1964	1965
	\$	\$	\$
Main Office .....	1,900,718.	1,621,528.	1,582,388.
Fish and Wildlife .....	5,324,796.	5,598,081.	5,729,078.
Forest Protection .....	84,250.	138,809.	136,012.
Lands and Surveys .....	1,062,874.	1,095,047.	1,024,250.
Parks .....	1,370,563. (1)	1,254,967.	1,335,214.
Timber .....	12,816,859.	13,515,794.	14,112,981.
Conservation Authority .....	13,800.		
Forest Ranger School .....			122,240. (2)
	<u>22,573,860.</u>	<u>23,224,226.</u>	<u>24,042,163.</u>

(1) Includes \$218,916. Federal contribution under Campgrounds and Picnic Areas Agreement.

(2) Previous Years included in Main Office revenue

### (b) Disbursements

	\$	\$	\$
Chargeable to Ordinary Account .....	25,579,140.	27,815,028.	28,667,274.
Chargeable to Capital Disbursements .....	2,934,927.	3,557,125.	1,562,776.
	<u>28,514,067.</u>	<u>31,372,153.</u>	<u>30,230,050.</u>

# STATEMENT OF RECEIPTS

For Year Ended

## RECEIPTS

### MAIN OFFICE

Provincial Land Tax .....	\$ 1,440,259.10	
Sale of Maps, Publications, Etc. ....	142,128.85	\$ 1,582,387.95
	<hr/>	

### FISH AND WILDLIFE BRANCH

Licences, Royalties and Sundry (see Statement No. 3) .....		5,729,078.19
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### FOREST PROTECTION BRANCH

Forest Protection Section		
Recovery of Fire Fighting Costs and Miscellaneous .....	\$ 111,656.09	
Air Service Section		
Flying Fees .....	24,355.42	136,011.51
	<hr/>	

### LANDS AND SURVEYS BRANCH

Lands Section		
Land Sales (Capital) .....	\$ 512,998.03	
Land Rentals		
Leases and Licences of Occupation .....	292,244.58	
Perquisites — Rentals .....	165,990.27	
Miscellaneous .....	19,413.08	
Park Rentals		
Leases and Licences of Occupation		
Algonquin .....	\$ 13,584.03	
Rondeau .....	15,975.22	
Presqu'île .....	1,314.15	
Long Point .....	732.95	
Sundry Parks .....	1,997.90	
	<hr/>	
	33,604.25	1,024,250.21

### PARKS BRANCH

Park Concessions		
Rentals .....	\$ 95,486.71	
Permits (All Parks)		
Vehicle .....	\$591,748.50	
Campsite .....	626,033.75	
Boat .....	11,305.00	
Guide .....	4,250.00	
	<hr/>	
	1,233,337.25	
Miscellaneous .....	6,390.50	1,335,214.46
	<hr/>	

Carried Forward

\$ 9,806,942.32

**AND DISBURSEMENTS**

March 31st, 1965

**DISBURSEMENTS****MAIN OFFICE**

Minister's Salary — Statutory .....		\$ 12,000.00	
Salaries .....	\$1,145,845.06		
Travelling Expenses .....	44,777.85		
Maintenance and Operating .....	232,555.50	1,423,178.41	
Public Information and Education .....		173,157.02	
Damages, Other Claims, Etc. ....		3,173.80	
Workmen's Compensation .....		118,647.49	
Annuities and Bonuses to Indians .....		35,328.00	
Unemployment Insurance .....		67,510.19	
Advisory Committee to Minister .....		188.70	
Grant to Ontario Forestry Association .....		10,000.00	\$1,843,183.61

**BRANCHES****FISH AND WILDLIFE**

Salaries .....	\$ 356,542.92		
Travelling Expenses .....	33,509.36		
Maintenance and Operating .....	91,698.11	\$ 481,750.39	
Grants			
Jack Miner Migratory Bird Foundation Inc. ....	\$ 3,000.00		
Thomas N. Jones .....	300.00		
Ontario Fur Breeders' Association Inc. ....	5,000.00		
Ontario Council of Commercial Fisheries .....	4,000.00		
Ontario Trappers' Association .....	5,000.00	17,300.00	
Wolf Bounty .....		59,997.00	559,047.39

**FOREST PROTECTION**

Salaries .....	\$ 153,567.71		
Travelling Expenses .....	8,632.53		
Maintenance and Operating .....	13,143.42		175,343.66

**LANDS AND SURVEYS**

Salaries .....	\$ 517,392.25		
Travelling Expenses .....	8,805.16		
Maintenance and Operating .....	19,796.41	\$ 545,993.82	
Cadastral Surveys .....		382,303.31	
Storage Dams — Control and Maintenance .....		9,218.25	
Grant — Association of Ontario Land Surveyors .....		200.00	937,715.38
Carried Forward			\$3,515,290.04

# RECEIPTS

For Year Ended March 31st, 1965

Brought Forward

\$9,806,942.32

## TIMBER BRANCH

Timber Section (See Statement No. 2)		
Timber Dues, Bonus, etc. ....	\$13,713,535.23	
Cash Deposits .....	16,177.36	\$13,729,712.59
Logging Roads — Recovery of Construction Costs (Capital) .....		255,854.28
Reforestation Section		
Sale of Nursery Stock .....	127,413.93	14,112,980.80

## FOREST RANGER SCHOOL

Government of Canada — Repayments under Technical and Vocational Training Agreement	\$113,619.22	
Tuition Fees .....	8,621.00	122,240.22

TOTAL RECEIPTS .....	\$24,042,163.34
Excess of Disbursements over Receipts .....	6,187,887.03

\$30,230,050.37



**DISBURSEMENTS**

For Year Ended March 31st, 1965

		Brought Forward	\$3,515,290.04
<b>PARKS</b>			
Salaries .....	\$110,819.84		
Travelling Expenses .....	8,915.51		
Maintenance and Operating .....	5,992.10	\$ 125,727.45	
Park Improvements .....		1,590,022.88	1,715,750.33
<b>RESEARCH</b>			
Salaries .....	\$598,436.34		
Travelling Expenses .....	30,533.17		
Maintenance and Operating .....	93,996.01	\$ 722,965.52	
Grant — Ontario Research Foundation .....		50,803.94	773,769.46
<b>TIMBER</b>			
Salaries .....	\$642,956.79		
Travelling Expenses .....	29,504.89		
Maintenance .....	153,755.16	\$ 826,216.84	
Grants to Municipalities and Conservation Authorities (See Statement No. 5) .....		89,122.66	915,339.50
<b>FIELD SERVICES</b>			
		Brought Forward	\$6,920,149.33
<b>BASIC ORGANIZATION — District Offices</b>			
Salaries .....	\$14,912,506.18		
Travelling Expenses .....	616,499.05		
Maintenance and Operating .....	4,059,786.55		
Equipment — Other than Forest Fire Suppression .....	1,189,476.64		
Maintenance Forest Access Roads .....	374,254.11	\$21,152,522.53	
Less — Federal Contribution .....		1,290,874.53	\$19,861,648.00
<b>EXTRA FIRE FIGHTING</b>			
Wages, etc., Maintenance and Operating .....		\$ 723,586.61	
Forest Fire Suppression Equipment .....		172,498.29	896,084.90
<b>FOREST RANGER SCHOOL</b>			
Salaries, Travelling Expenses, Maintenance and Operating .....			215,194.98
<b>JUNIOR RANGER PROGRAM</b>			
Wages, Travelling Expenses, Maintenance and Operating .....			774,197.42
<b>LOGGING ROADS (CAPITAL)</b>			
Construction Costs (Recovered — See Receipts) .....			255,854.28
<b>FOREST ACCESS ROADS (CAPITAL)</b>			
Construction Costs .....		\$ 693,463.47	
Less: Federal Contribution .....		304,027.08	389,436.39
<b>LAND ACQUISITION (CAPITAL)</b>			
Parks, Recreational Areas, Public Hunting and Fishing Areas, etc. ....			917,485.07
<b>TOTAL DISBURSEMENTS</b>			<u>\$30,230,050.37</u>

# TIMBER

## TIMBER

### ANALYSIS OF CASH

For Year Ended

Districts	Crown Dues	Ground Rent	Fire Protection Charges	Interest & Scalers-Wages Mill Licences, Etc.
Chapleau .....	\$ 556,041.69	\$ 2,157.00	\$ 27,609.60	\$ 778.78
Cochrane .....	1,022,740.93	6,985.00	89,407.70	878.33
Fort Frances .....	401,606.85	918.00	11,750.39	281.53
Geraldton .....	1,698,797.54	14,129.00	180,851.20	126.75
Gogama .....	184,445.30	1,226.00	15,692.80	130.96
Kapuskasing .....	1,531,178.50	7,016.00	89,743.02	836.32
Kenora .....	991,794.39	10,766.00	137,804.80	1,103.78
Lindsay .....	85,561.74	103.00	1,318.40	704.90
North Bay .....	880,923.74	3,504.00	38,682.60	2,662.49
Parry Sound .....	331,796.89	1,477.00	18,905.60	3,182.62
Pembroke .....	578,963.50	4,566.00	59,354.98	1,323.43
Port Arthur .....	1,107,794.77	15,321.00	196,108.80	108.00
Sault Ste. Marie .....	805,979.02	5,309.00	68,179.74	1,638.56
Sioux Lookout .....	655,241.47	1,561.00	19,980.20	2,081.32
Sudbury .....	347,130.91	4,426.00	61,928.20	1,129.40
Swastika .....	534,445.79	2,027.00	26,759.60	130.65
Tweed .....	222,370.31	720.00	8,678.14	607.51
White River .....	473,685.88	6,355.00	82,879.20	2,943.31
Other Districts .....	31,884.53	3.00	17,709.14	3,320.00
	\$12,442,383.75	\$88,569.00	\$1,153,344.11	\$23,968.64
	90.74%	.65%	8.41%	.16%

## BRANCH

## SECTION

## RECEIPTS BY DISTRICTS

March 31st, 1965

Federal Forestry Agreement	Total Timber Revenue	Cash Deposits Received & Refunded	Total Timber Revenue & Cash Deposits	Percentages of Total Timber Revenue & Cash Deposits
	586,587.07	4,800.00Cr.	581,787.07	4.24
	1,120,011.96	25,082.80	1,145,094.76	8.34
	414,556.77	800.00Cr.	413,756.77	3.01
	1,893,904.49		1,893,904.49	13.80
	201,495.06		201,495.06	1.47
	1,628,773.84		1,628,773.84	11.86
	1,141,468.97	12,219.74	1,153,688.71	8.40
	87,688.04	600.00	88,288.04	.64
	925,772.83	1,200.00Cr.	924,572.83	6.74
	355,362.11	943.76Cr.	354,418.35	2.58
	644,207.91	100.00	644,307.91	4.69
	1,319,332.57	2,074.72	1,321,407.29	9.63
	881,106.32	8,400.00	889,506.32	6.48
	678,863.99	9,500.00Cr.	669,363.99	4.88
	414,614.51		414,614.51	3.02
	563,363.04	10,475.00Cr.	552,888.04	4.02
	232,375.96	1,081.14Cr.	231,294.82	1.69
	565,863.39	3,500.00Cr.	562,363.39	4.10
5,269.73	58,186.40		58,186.40	.41
5,269.73	\$13,713,535.23	\$16,177.36	\$13,729,712.59	100.00%
.04%	100%			



Hunting licences are a major source of revenue.



# FISH AND WILDLIFE BRANCH

## Analysis of Cash Receipts

For Year Ended March 31st, 1965

### FISHERIES

#### Licences

Angling .....	\$2,695,802.09	
Commercial Fishing .....	97,735.00	
Smelt .....	22,276.75	
Domestic .....	140.00	
Sale of Certain Fish .....	590.00	
	<hr/>	
	\$2,816,543.84	

#### Royalty

Commercial Fishing .....	1,783.47	\$2,818,327.31
	<hr/>	

### GAME

#### Licences

Non-Resident Hunting .....	\$1,278,264.19	
Bear .....	2,083.25	
Deer .....	493,978.80	
Moose .....	366,692.80	
Ground Hog .....	32,347.06	
Gun .....	309,060.58	
Dog .....	24,269.30	
Trappers .....	34,744.00	
Fur Dealers .....	3,586.00	
Fur Farmers .....	4,995.15	
Pheasant .....	4,151.15	
Tanners .....	200.00	
Provincial Parks Hunting .....	20,868.65	
	<hr/>	
	\$2,575,240.93	

#### Royalty

	252,379.70	\$2,827,620.63
	<hr/>	

### GENERAL

#### Licences and Permits

Guides .....	\$ 1,204.00	
Wild Rice .....	9.00	
Hunt Camp .....	1,700.00	
Fines .....	48,441.50	
Sales — Confiscated Articles .....	22,863.05	
Miscellaneous .....	8,329.41	
Government of Canada — Resources		
Development Agreement .....	583.29	83,130.25
	<hr/>	
		<u>\$5,729,078.19</u>

# TOTAL EXPENDITURE ALLOCATED

For Year Ended

	Total \$	Forest Protection \$	Lands \$
<b>Ordinary Expenditure</b>			
Main Office .....	1,843,183.61	407,509.73	95,905.68
Fish and Wildlife Branch .....	559,047.39		
Forest Protection Branch .....	175,343.66	175,343.66	
Lands and Surveys Branch .....	937,715.38		132,130.50
Parks Branch .....	1,715,750.33		
Research Branch .....	773,769.46		
Timber .....	915,339.50		
Forest Ranger School .....	215,194.98	17,473.83	
Junior Ranger Program .....	774,197.42	179,889.75	3,552.69
Basic Organization (before deduction of Federal contribution of \$1,290,874.53)	21,152,522.53	6,284,258.58	590,730.53
Extra Fire Fighting (wages and equipment) .....	896,084.90	896,084.90	
	29,958,149.16	7,960,560.45	822,319.40

## Distribution of General Expenditure and Administration Costs Over Main Services

Field Administration (pro-rated) .....	596,656.53	73,185.61
— Percentage .....	26.17%	3.21%
Research (as per analysis) .....	59,901.86	15,671.98
Surveys (pro-rated) .....		896,415.36
— Percentage .....		92.00%
	29,958,049.16	8,617,118.84
		1,807,592.35

## Less: Federal Contributions Applied As Credits

Forestry Agreement			
— Forest Inventory (as per costs) ..	214,969.13	53,742.28	32,245.37
— Planting .....	600,000.00		
— Fire Fighting Equipment .....	392,064.32	392,064.32	
Resources Development Agreement .....	83,841.08		

## TOTAL ORDINARY EXPENDITURE

28,667,274.63	8,171,312.24	1,775,346.98
---------------	--------------	--------------

## Capital Disbursements

Construction of Logging Roads (Recovered — see receipts) .....	255,854.28		
Construction of Forest Access Roads (after deduction of Federal contribution of \$304,027.08) .....	389,436.39		
Acquisition of Land .....	917,485.07		65,071.87

## TOTAL DISBURSEMENTS

30,230,050.37	8,171,312.24	1,840,418.85
Percentage of Total .....	27.04%	6.09%

## TO MAIN SERVICES RENDERED

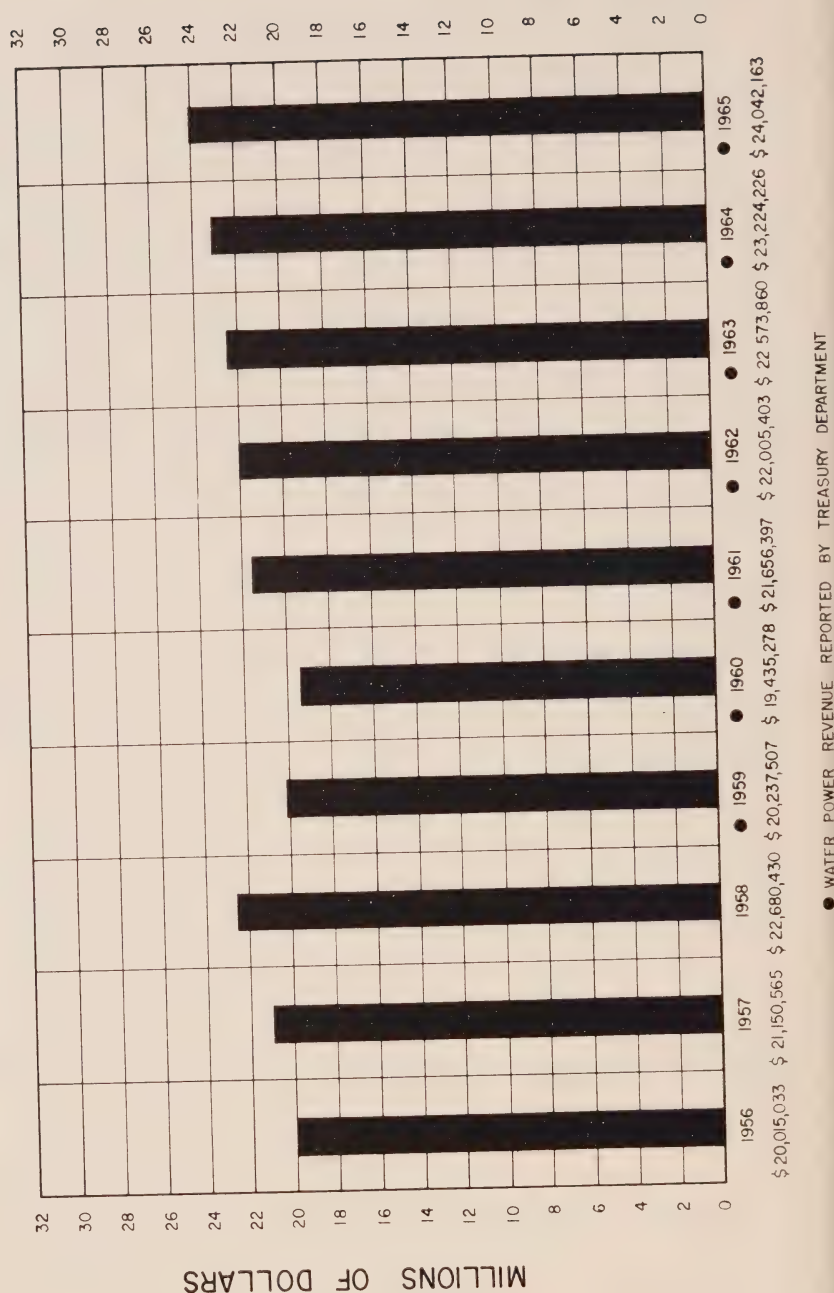
31st March, 1965

Timber \$	Fish and Wildlife \$	Parks \$	Research \$	Surveys \$	Field Admin- istration \$
487,540.18	353,257.15 544,540.83	254,666.81	88,520.97 14,506.56	52,871.46	102,911.63
		1,715,750.33	773,769.46	805,584.88	
915,339.50					
110,567.18	57,069.71			30,084.26	
225,200.89	5,179.63	359,136.14			1,238.32
6,424,211.25	3,247,998.57	1,986,861.94	434,835.55	7,850.46	2,175,775.65
8,162,859.00	4,208,045.89	4,316,415.22	1,311,632.54	896,391.06	2,279,925.60
687,625.56	372,311.85	354,528.43	117,644.16	77,973.46	*2,279,925.60
30.16%	16.33%	15.55%	5.16%	3.42%	
548,131.87	795,045.65	10,525.34	*1,429,276.70		
19,487.29	9,743.65	48,718.22		*974,364.52	
2.00%	1.00%	5.00%			
9,418,103.72	5,385,147.04	4,730,187.21			
85,987.65	42,993.83				
600,000.00					
	83,841.08				
8,732,116.07	5,258,312.13	4,730,187.21			
255,854.28					
389,436.39					
794.95	120,817.90	730,800.35			
9,378,201.69	5,379,130.03	5,460,987.56			
31.02%	17.79%	18.06%			

\*Deductions

# TREND OF TOTAL ANNUAL RECEIPTS

## FOR THE TEN YEARS ENDED 31st. MARCH 1965





# GRANTS TO MUNICIPALITIES AND CONSERVATION AUTHORITIES UNDER THE FORESTRY ACT, R.S.O. 1960

(To Aid in Acquisition of Forest Areas)

For Year Ended March 31st, 1965

## MUNICIPALITIES:

## Counties:

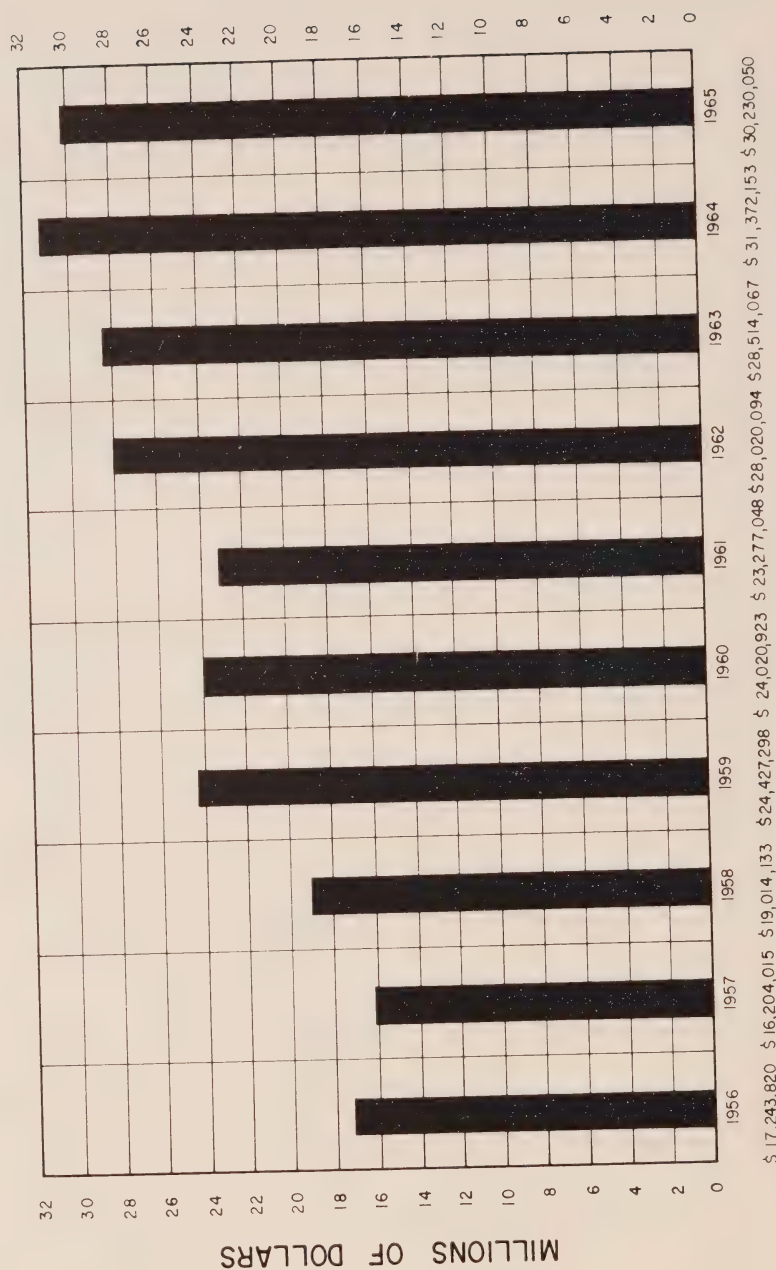
Bruce .....	\$ 1,812.85	
Carleton .....	27,600.00	
Grey .....	1,024.05	
Halton .....	3,950.00	
Leeds & Grenville .....	588.27	
Middlesex .....	2,791.75	
Renfrew .....	3,827.06	
Simcoe .....	9,705.14	
York .....	4,137.51	
Townships:		
Mosa .....	2,650.85	\$58,087.48

## CONSERVATION AUTHORITIES:

Big Creek Region .....	\$ 7,759.56	
Catfish Creek .....	2,321.30	
Ganaraska Region .....	2,955.80	
Grand Valley .....	2,438.10	
Lower Thames Valley .....	7,167.62	
Moirs River .....	119.42	
Otter Creek .....	3,106.07	
Saugeen Valley .....	3,829.21	
South Nation River .....	855.95	
Upper Thames River .....	482.15	
		31,035.18
		<u>\$89,122.66</u>

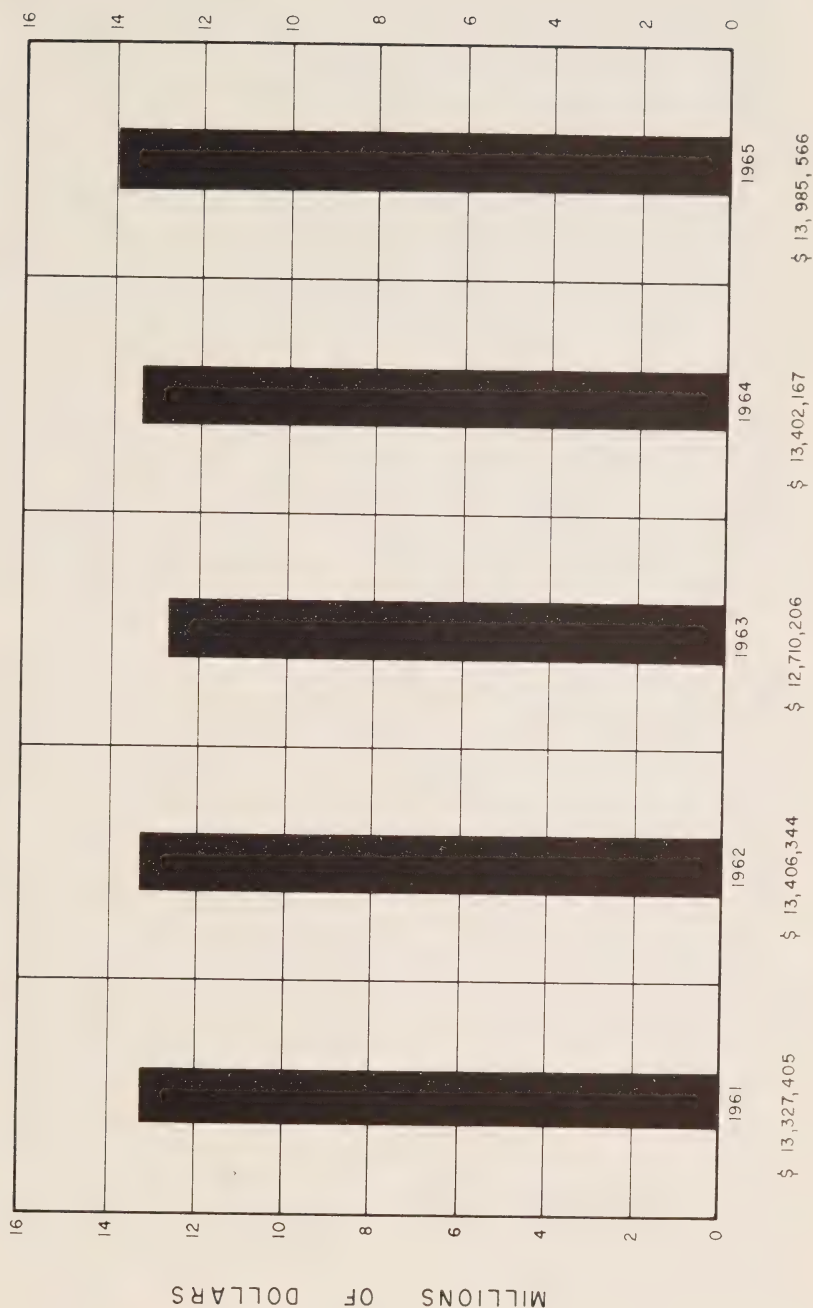
# TREND OF TOTAL ANNUAL DISBURSEMENTS

## FOR THE TEN YEARS ENDED 31st. MARCH 1965



# TREND OF DEPARTMENTAL TIMBER REVENUE

CROWN DUES - GROUND RENT - FIRE PROTECTION CHARGES & MISCELLANEOUS  
FOR THE FIVE YEARS ENDED 31st. MARCH 1965.







A pheasant being banded in Lake Simcoe District.



A Lands and Forests biologist explains how mallards are sexed by wing.



## FISH AND WILDLIFE BRANCH

THE purpose of the Fish and Wildlife Branch is to establish and maintain a maximum fish and wildlife population in the Province consistent with all other proper uses of its lands and waters. Management activities are directed towards permitting the people of Ontario to realize the greatest recreational or economic benefits from these renewable resources. This is a long term project, but all proposals for management programmes, legislation, or other activities are considered in the light of the following principles: (a) sustained yield; (b) full use; (c) multiple land use; and (d) public use.

Sustained yield means the maintenance of stock which will continue to produce a sustained annual harvest and hunting and fishing are regulated only to the extent that such activities actually limit the size of the parent stock.

Legislation, management programmes and public relations programmes are directed towards encouraging the harvest of the entire annual increment of fish and game species. The provision of public access to unused surplus stocks of wildlife is essential.

The production of fish and game is one form of land use and is compatible with forestry and agricultural pursuits, among others. All the aspects of land and water use in any area are considered in the planning and assessment of public benefits which may be derived from the land.

Finally, fish and wildlife resources have high economic values and are the basis for universally popular forms of recreation. Accordingly, plans, programmes and legislation are generally directed towards promoting and encouraging public use rather than restricting it. It is axiomatic that the more public use is made of these resources, the better is the management.

Commercial fishing is an old industry in Ontario. At one time it was the only sort of fishing to which anyone gave any serious thought, so far as administration is concerned. However, there always were anglers, and when railways came, we began to get tourist anglers. The first place that got real publicity was the Nipigon River, newly crossed by the C.P.R. The Ontario Fisheries Act of 1885 was put into effect in 1887, and one of the three officers appointed to collect the new \$1.00 nonresident angling fee was stationed at Nipigon. His first collection included \$27.00 from anglers from "old" Ontario, reflecting a viewpoint still to be found in the north. In one statement a few years later, however, a "tourist" was defined as anyone more than five miles from home.

Though we have come a long way and travel farther nowadays, our commercial fishery is still a valid and valuable industry. It is hard to assess the value of our sport fishery, but it is at least fifty times that of the commercial fishery, and if there were ever any question about the availability of fish, there is no doubt about the angler having first claim. Angling interests sometimes oppose commercial fishing, but we generally find that biological investigation shows no real incompatibility and often shows actual benefit.

Commercial fishermen have been more than a little buffeted by the "winds of change". Time was when a box of fish could be taken from the net, iced, and shipped to market where it could be sold in the round, but not today. In the "meat" end of the supermarket everything is packaged ready for cooking. The

## FISH AND WILDLIFE BRANCH

*Chief:* C. H. D. CLARKE

### WILDLIFE SECTION

*Supervisor:* F. A. WALDEN  
(Acting)

Game Management  
Fur Management  
Field Services

### FISHERIES SECTION

*Supervisor:* J. D. ROSEBOROUGH

Game Fish and Hatcheries  
Commercial Fisheries  
Federal-Provincial Resources  
Development Agreement

### SPECIAL STAFF

Chief's Clerical Staff  
Accounts and Staff Records  
Reports, Publications and Laboratory

housewife wants her fish clean, fresh and ready to cook, and, above all, boneless. She won't even look at a fish in the round—an attitude that some blame, perhaps justly, on generations of angling uncles. At the same time the Great Lakes have been completely altered in character, in the upper lakes by the sea lamprey, and in the lower ones by chemical changes caused basically by industrial and domestic wastes. In changed lakes we have new fish dominating the market. There are vast quantities of smelt, perch, chub and alewife, for which there either exists no market, or else a huge market for processed fish at a low price. This means that the costs of production have to be low. In far northern lakes there is also a problem of processing and quality control, and a high cost of shipping. Our fish are still excellent, but they don't sell themselves unaided as they used to.

The establishment of a licence for smelt trawls in Lake Erie after some seven years of experimental trawling has established this new form of fishing firmly in Ontario. Markets for smelt have gradually been developed by the industry, and the commercial fishermen are deriving as much benefit from smelt as presently possible.

At the same time, experimental fishing for perch, white bass and sheepshead is carefully being developed, using trawls. Small-mesh gill nets have been allowed in formerly prohibited areas of the Great Lakes to assess their potential in developing a chub fishery.

In Lake Ontario, white perch have become abundant, and experimental fishing by commercial fishermen with small-mesh gill nets has allowed the initial development of a fishery for white perch. Small markets are being established by the industry to make use of this new species in Ontario.

Perhaps the present and future key to successful commercial fishing in Ontario is the ability of the fishermen to change from traditional gear and fish species, to the species available, and the most economical means of catching them. In addition, the production of fish of the highest quality is becoming most necessary for fish competing with other foods in the retail food market.

If we look at the other food products in the Supermarket, we find that with them there is a history of new processes, new gear, large scale operations, and fewer men. The same trend in the fishery is hardly a cause for surprise.

For the farmer, however, promotion and marketing has been modernized as well as production and processing. The fisherman sees himself unable to change his operation without some help at the sales end. During the year there has been a series of conferences and meetings in which the federal government, the provinces and the industry have attempted to deal with these problems. Most significantly, economists have given their attention to them. In a protein-deficient world fish is fine food, and, with us, good sources that should be on the market at a reasonable price are untapped, or else the fishermen are not making a stable livelihood. We must acknowledge an opportunity to bring an old industry up-to-date, and to put good food at the disposal of the housewife.

During the year two senior members of our staff, who have obviously become known as sound and capable administrators, have gone into senior executive positions in other areas of the Provincial services. Dr. J. K. Reynolds went to the Prime Minister's office, and Mr. D. N. Omand to the Civil Service Department. Mr. J. D. Roseborough is now Fisheries Supervisor and Mr. F. A. Walden is Wildlife and Enforcement Supervisor. Universities and other services have also been able to attract some of our experienced biologists. We would be more philosophical about accepting such changes as adjustments from which we ultimately benefit if we were always assured of recruiting trained men at the starting level, but there is a shortage of such men in Canada.

# WILDLIFE SECTION

## Game Management 1964

Ontario offers excellent hunting opportunities. Sales of all types of resident licences total 577,771 while sales to non-residents total 24,407. Hunting licence sales for 1964 are contained in Table 1.

Table 1

Resident Moose .....	40,188
Resident Deer .....	109,549
Camp .....	261
Dog .....	11,901
Farmers Deer .....	14,372
Regulated Hunting Camp (Lindsay) .....	85
Resident Bear .....	414
Resident (Small Game) .....	361,483
Groundhog .....	38,038
Non-Resident Moose .....	7,639
Non-Resident Deer .....	6,562
Non-Resident Small Game .....	7,998
Non-Resident Spring Bear .....	2,169
Non-Resident Wolf .....	39
Non-Resident Pheasant Preserve .....	85

Licence sales continued to rise and with greater numbers of sportsmen afield the proper management of the game resource becomes increasingly important. In 1964, field staff comprising 229 conservation officers and 39 biologists enforced regulations made under The Game and Fish Act, obtained detailed information needed for sound management decisions and completed management projects designed to maintain or improve wildlife populations. The task of managing wildlife populations covers a very wide range of activities. Inventories, collection of harvest information, evaluation of habitat, law enforcement, stocking and habitat improvement are some of the most important functions. A wealth of information is required to provide the basis for sound regulations and to design programmes aimed at providing quality hunting. For example, harvest information was obtained from a high percentage of the over 130,000 deer hunters in 1964; over 23,000 deer hunters were interviewed at highway check points and another 22,000 were asked to forward information by mail or telephone. Almost one third of the Province's moose hunters also forwarded information last year. Staff in northern Ontario again flew several thousand square miles of moose range censusing moose over 25 square mile sample lots. Deer yards were mapped and habitat improvement cuttings carried out in important deer yards across the eastern deer range. More adult pheasants were released; seven public hunting grounds provided both upland game and waterfowl shooting and additional important wildlife areas were purchased. These were only a few of the many activities of Lands and Forests staff in the field of game management. Although far from complete, the following resume further discusses game management activities in Ontario in 1964.

## White-Tailed Deer

The popularity of deer hunting in Ontario continues to rise and more than 130,000 deer licences were sold in 1964; an increase of almost 10,000 over 1963 sales.

In general, Ontario's deer hunters enjoyed good hunting in 1964. Across the



main eastern deer range, hunting was much better than in 1963 when continuous rain throughout the first week of the season dampened the spirits of many deer hunters and drastically lowered success.

In northwestern Ontario deer are most abundant and success rates were still high. To the east, success rates rose, with the exception of those areas along the northernmost fringe of range in Sault Ste. Marie and Sudbury Districts. Very severe winters have plagued the north shore in recent years and winter mortality, coupled with marginal habitat, have produced much lower success than that which was enjoyed a decade or so ago. Ontario lies at the northernmost fringe of this continent's deer range and white-tails are either rare or absent over much of northern Ontario. Harsh winters, with deep snow, hinder white-tails in their search for winter food and are the factors which make the north country an inhospitable area for deer.

To effectively manage the Province's deer herds, good information concerning the annual harvest is essential and facts on hunter success, hunter effort required to bag a deer, and age composition of the herd are a few of the items required. Road check stations, visits to deep-freeze lockers and hunt camps, post season mail and telephone surveys and reports forwarded by hunt camp "secretaries" all are used to obtain facts for management decisions.

Hunter success varied across the Province. Table 2 shows deer hunter success for those administrative districts having huntable densities of deer. Once again, the western region comprising the districts of Kenora, Fort Frances and Port Arthur enjoyed excellent hunting success and rates exceeded 40% in the first two districts. Mail surveys of deer hunters were conducted across the complete western region and these surveys indicated that over 13,000 hunters pursued deer from the Lake Head west. Western Ontario still boasts the best deer hunting the Province has to offer and over 5,000 hunters enjoyed a success rate of 49.1% in Kenora. Relatively recent timber cutting operations along with large areas of balsam which were killed

Table 2

1964 DEER HUNTER SUCCESS

District	No. Residents Checked	No. Non- Residents Checked	Total Hunters Checked	% Success
Lindsay .....	3119		3119	18.9
Tweed .....	3225	26	3251	29.6
Kemptville .....	1844		1844	32.5
Pembroke .....	1431		1431	17.4
Parry Sound .....	7387	148	7554	20.2
North Bay .....	822	18	840	15.2
Sudbury .....	207		207	14.0
Manitoulin Is. ....	3037	151	3188	20.2
Sault Ste. M. ....	712	61	793	18.7
Lake Erie** .....	5548		5548	10.9
Bruce Peninsula .....	2597		2597	12.6
Lake Simcoe* .....	1376		1376	30.6
Kenora* .....	3176	1829	5005	49.1
Fort Frances* .....	2766	411	3177	45.7
Sioux Lookout* .....	893	190	1083	34.0
Port Arthur .....			4313	31.7

\* — These districts obtained data from mail or telephone surveys and this information is not strictly comparable with information collected at check stations or in the field by other districts.

\*\* — Lake Erie data obtained from field checks and noting ratio of farmer to resident licences.

by spruce budworm have produced excellent deer habitat. This fact, coupled with comparatively mild winters with little snow have produced an abundance of deer. Remote from high human population densities the western region experiences low hunting pressures. A much larger harvest is desirable however, since heavy mortality will result if a severe winter with deep snow occurs.

In the main eastern deer range, from Sault Ste. Marie east and south, deer hunters in 1964 enjoyed better success than in 1963. The main difference was weather which, unlike the heavy rains of the year previously, allowed hunters to hunt white-tails in reasonable comfort. In the central region, including Sault Ste. Marie and Sudbury mainland areas, success rates were still much lower than the levels enjoyed in the late 1950's. There was evidence that huntable populations of deer were distributed more widely across the Sault Ste. Marie District in 1964, but herds are recovering very slowly from the very severe winters of the early 1960's in the Sudbury District. The north shore has been plagued by very deep snow almost every year since 1958 and prospects for a good season in Sault Ste. Marie in 1965 are not good since snowfall was very heavy during the winter of 1964-65 and surveys again have indicated starvation from malnutrition. In Sudbury there were some brighter spots and excellent hunting was enjoyed in the French River area with many camps getting their count. Very low hunter success was reported from areas such as Lake Penage, Drury and Massey which were once prime hunting areas.

Manitoulin Island enjoyed a banner season and success rates rose to almost 30%; the 3037 residents and 151 non-residents interviewed at the Little Current checking station had very few complaints. Of the 958 deer inspected from Manitoulin, 34.6% were fawns. This indicates that a bumper fawn crop was produced last year and this augurs well for the 1965 hunt. North Bay District hunter success rose slightly and to the south in Parry Sound success was also somewhat improved over 1963. At Parry Sound over 8,000 hunters were interviewed at checking stations, while 566 camps mailed in reports of their hunter success. Information received from deer hunt camp reports is contained in Table 2. Many of these camps have been in operation for many years and consistently report on their hunting success; summaries of these Crown land camp reports probably constitute the most reliable statistics pertaining to success rates which are collected.

Slightly further south in Lindsay and Tweed Districts, hunters enjoyed better success than during the dismally wet season in 1963. Tweed recorded an increase in organized camp success of 6.1%, while a gain of 3.6% was indicated at Lindsay. In both districts fawns represented a good proportion of the kill which is a promising sign for 1965. An added bonus for deer hunters was the very large number of black bear taken all across the eastern range. A combination of mild weather before the hunt, a good supply of acorns on the ridges and numerous bears provided a good many hunters with opportunities to bag a bruin.

Pembroke District hunters fared somewhat better than the year previously; organized hunter success improved from 13.1% to 19.4%, casual hunters from 7.7% to 12.9% and Crown land camp success increased from 20.7% to 23.5%. These success rates still are not comparable to those enjoyed during the 1950's and general habitat conditions have slowly deteriorated over the past few years. It is hoped that commercial logging combined with winter deer habitat improvement programs will keep success rates on a continuing upward trend.

In Kemptville District camp reports for over 1800 hunters indicated a success rate of 32.5% an improvement over the 26.7% tallied in 1963. Agricultural areas produced far more deer than most of us realize and it is not surprising that fawns comprised a very high 37.9% of the total kill. This is an indication of the

ability of agricultural areas to produce well nourished deer and a large healthy fawn crop which augurs well for future hunting prospects in the eastern counties.

Elsewhere in agricultural southern Ontario, several counties and townships were open for a three-day deer season—some for the first time in many years. In Lake Simcoe District, the hunt was an unqualified success in the seventeen townships open to hunting and virtually no complaints were received from either landowners or hunters. Over 1300 hunters were either checked in the field or contacted later by mail or telephone; these surveys indicated a hunter success of 30.6% which is exceptional for such a short season.

In Erie District, short deer seasons were enjoyed in four counties and district staff estimate that 5548 hunters enjoyed a success rate of about 11%. Again the hunt was most orderly and landowners constituted a high percentage of participating hunters.

The Bruce Peninsula in Lake Huron District again enjoyed a six-day season and 2500 hunters checked at Wiarton had a success rate of 12.8% which was very similar to 1963.

In summary, Ontario deer hunters enjoyed much better success than in 1963. Weather during the hunt was much improved and in nearly every area there was evidence that deer were available in good numbers. Except for Sault Ste. Marie and Sudbury, which have been plagued by bad weather, prospects for those hunting white-tails in 1965 are good.

HABITAT IMPROVEMENT

Deer in Ontario are at the northernmost fringe of this Continent's deer range. Supplies of food and cover in winter concentration areas are essential if good deer populations are to be maintained. The excellent food supplies which followed the heavy pine logging of the 1850 to 1910 period is maturing and conditions are becoming less favourable for deer. Selective conifer logging also has destroyed winter shelter values in some areas, and there are extensive stands of timber with little commercial value at the present time.

For the past three years a major programme designed to improve winter habitat for deer has been under way. This programme is a co-operative one between the Timber and Fish and Wildlife Branches. Important wintering areas for deer are located by aerial surveys and inspected subsequently on the ground. Most projects are designed to provide adequate woody browse for deer during

Table 3  
DEER HABITAT IMPROVEMENT 1964 FISCAL YEAR

District	No. Projects	No. Acres Treated	Programme
Parry Sound .....	7	1925	Cutting and girdling unmerchantable trees to encourage browse production.
Lindsay .....	2	326	Cutting pole stand hardwoods and girdling larger unmerchantable timber to encourage browse production.
Sault Ste. Marie .....	2	300	Clear cutting strips to encourage production of browse.
Pembroke .....	9	4410	Clear cutting unmerchantable, mature hardwoods to produce deer browse.
TOTAL .....	20	6961	



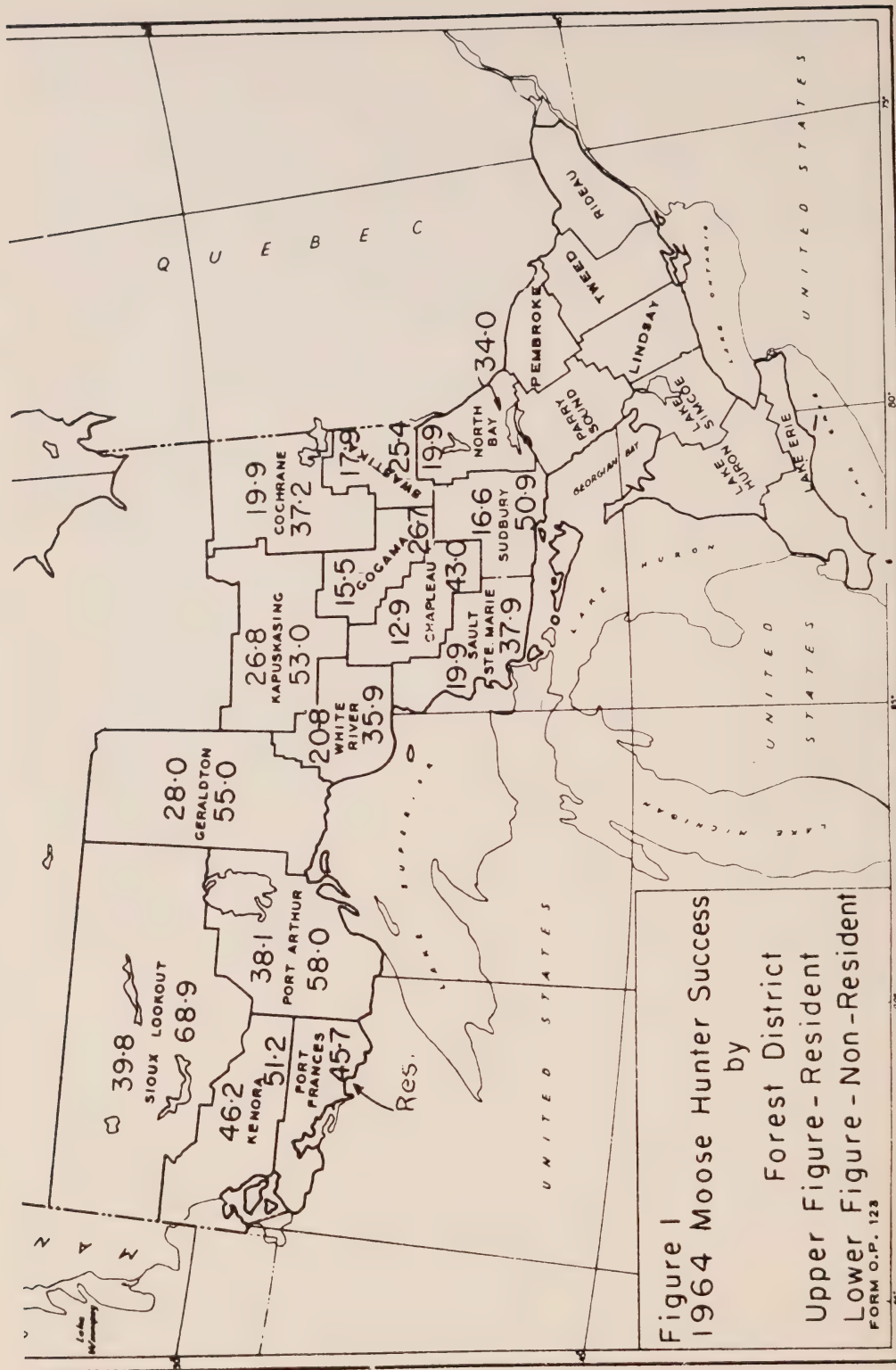


Figure 1  
 1964 Moose Hunter Success  
 by  
 Forest District  
 Upper Figure - Resident  
 Lower Figure - Non-Resident  
 FORM O.P. 123



periods of hardship resulting from severe winter weather. Most of the work entails the removal of mature growth to encourage browse production. In 1964 the following growth acreages of yarding areas were treated.

Forest stand improvement funds of the Timber Branch have financed most deer range improvement projects to date. Results of the first few years' work have been most encouraging and deer have utilized a major proportion of the new browse which has been produced. Many foresters are interested in this type of habitat manipulation and they are now in a position to recommend specific forest treatments in the areas important to deer. Commercial timber operators have also co-operated in modifying their operations to benefit deer; hemlock stands which are exceptionally valuable as winter cover have been spared, for instance, where they occur within important deer yards.

Proper timber management of all important deer yards will be essential if deer hunting of reasonable quality is to be maintained.

### Moose Management

Moose hunters in Ontario continue to enjoy good moose hunting although success rates were slightly lower than in 1963. Average success rates for residents and non-residents were 24.5% and 50.9% respectively for the Province, both exactly 2.0% lower than the previous year.

It is surprising that the decline was not more severe. During October, when almost 70% of the total hunting effort takes place, extremely wet, cold weather descended over most of the north country and made hunting conditions very difficult.

Moose in Ontario continued to attract a large number of hunters. Licence sales exceeded 43,000 last fall with about one-sixth of this total purchased by non-residents.

For the first time since 1951 when the season re-opened following a two-year closure, licence sales declined — from 46,951 in 1963 to 43,596 in 1964. However, almost 3,000 licences were sold south of the French and Mattawa in 1963. This area was closed to moose hunting in 1964, and 1,244 fewer licences were sold. Thus the “true” decline in sales was in the order of 2,200 licences. Moose licence sales for selected years are as follows:

Table 4

#### MOOSE LICENCE SALES IN ONTARIO

	1954	1957	1960	1964
Residents .....	7,502	17,369	30,340	36,418
Non-Residents .....	735	1,893	4,212	7,345
Resident Moose—Deer	—	38	1,608	—
TOTAL .....	8,237	19,300	36,160	43,763

The total calculated kill of moose, determined from post season mail surveys, was 11,818 which was a decline from the previous year. The decrease was due in part to reduced licence sales, in part to the closure of the season south of the French and Mattawa, and in part to the slightly lower hunter success prevailing in 1964. Table V shows resident and non-resident moose harvest data taken from hunter surveys in 1964.

Table 5

# RESIDENT & NON-RESIDENT MOOSE HARVEST DATA FROM HUNTER SURVEYS, 1964

Forest District	Calculated Licences Used*		Calculated Kill		% Hunter Success	
	Resident	Non-Resident	Resident	Non-Resident	Resident	Non-Resident
Sioux Lookout .....	986	1357	393	937	39.8	68.9
Kenora .....	1113	1286	515	658	46.2	51.2
Fort Frances .....	784	—	358	—	45.7	—
Port Arthur .....	3902	724	1487	420	38.1	58.0
Geraldton .....	2811	774	793	428	28.0	55.0
Kapuskasing .....	3717	362	999	192	26.8	53.0
Cochrane .....	3823	118	759	44	19.9	37.2
Swastika .....	4012	114	722	29	17.9	25.4
Gogama .....	2036	289	315	77	15.5	26.7
Chapleau .....	1404	576	182	248	12.9	43.0
White River .....	1837	822	382	295	20.8	35.9
Sault Ste. Marie .....	2651	404	530	153	19.9	37.9
Sudbury .....	2402	53	399	27	16.6	50.9
North Bay .....	2339	25	467	8	19.9	34.0
TOTAL .....	33,817	6,904	8,301	3,517	Avg. 24.5	Avg. 50.9

\* — Total calculated licences used by residents and non-residents as indicated by the hunter survey is 2,875 lower than total licence sales.

As usual, non-residents enjoyed better success than Ontario hunters. With a higher stake in licence fees, and with limited time to hunt, most visitors to the Province hunt harder and often engage the services of guides and use charter aircraft for transportation. This results naturally in better success. Hunting effort and expense is much lower for the resident hunter who often hunts only on the weekend.

Data on the moose hunt was obtained by mailing questionnaires to over 15,000 hunters. A systematic sample of names was selected from licence book covers and over 90% of the hunters contacted by mail returned the completed survey form. Essential information required for management purposes was collected at highway check points, deep freeze lockers, from hunter contacts in the field and through the co-operation of U.S. Customs officials. District staff aged over 1,500 moose, by noting the pattern of replacement and wear on the teeth of the lower jaw. This information provides the age class composition of the kill which is very useful when collected every year and compared with other harvest and inventory information.

Northwestern Ontario again led the Province in hunter success and in total moose harvested. Success rates for resident hunters in Fort Frances Forest District rose from 37.8% in 1963 to 45.7% last fall. Although the total kill was not large compared with other districts, it appears that moose are both extending their range and increasing in numbers per square mile in this area. Resident hunters enjoyed somewhat better success last year in Kenora while non-resident success fell almost 8%. This situation was reversed in Geraldton where resident success declined about 5% while the non-resident success rate rose almost 12%.

Bad weather across the northern and central moose management regions depressed the harvest and consequently success rates dropped in most districts. Swastika, Gogama, Chapleau, White River and Sault Ste. Marie Districts enjoyed resident success rates of between 21% and 24% since 1963. These districts had suc-

cess rates ranging from 12.9% to 20.8% in 1964. Non-resident success also fell in all but two of the central districts (Chapleau and Sudbury).

Port Arthur and Swastika Forest Districts followed closely by Kapuskasing and Cochrane accommodate the greatest number of resident moose hunters. Sioux Lookout and Kenora Districts with 1,357 and 1,286 hunters respectively are most popular with non-residents. Hunter success is indicated graphically on the accompanying map which shows the location of all 22 Forest Districts.

October is still the preferred month for moose hunting and about 65% resident and 90% of non-resident hunting is done during this month. Changes in hunting practices are occurring, such as the increasing number of hunters who are using motorized snow toboggans and ski-equipped aircraft to reach otherwise inaccessible areas after freeze-up.

The most difficult problem relating to moose management is getting the moose and hunter together. Lack of access is a major problem in many areas. Every effort is being made to open up as much territory to moose hunters as possible and lumber companies for the most part have been most co-operative in allowing travel on their forest access roads.

Moose remain abundant across most of their range. Aerial census work during the winter of 1964-65 on standard 25 square mile plots indicated little change in moose numbers. South of the French and Mattawa in the area closed to moose hunting in 1964, Parry Sound District staff tallied the largest number of moose seen on the plots since the late 1950's and it is obvious that with some protection moose herds can recover very rapidly.

Although moose were available in good numbers, the ability to harvest them was another story. Bad weather during the hunt, particularly during the first part of the season, made hunting difficult and reduced the kill. The story was much the same over a large part of the moose range. Kapuskasing staff stated that weather left much to be desired. From September 15th to October 4th, 1.75 inches of rain fell and the reported success at 26.8% for this period contrasted sharply with 45% for a similar period in 1963. Gogama staff reported the lowest success rate in seven years and commented that adverse weather in October influenced hunter success. Tourist outfitters complained that moose were not responding to calls; none suggested that there was a shortage of moose, however. Sault Ste. Marie officers also felt that inclement weather did much towards spoiling the entire hunting season.

That was the story for 1964. Prospects for a much improved hunt this autumn are encouraging if the weatherman co-operates. Moose are abundant and prospects for a good hunt in 1965 are excellent.

## OTHER STUDIES

Many districts utilized Beaver aircraft in searching for moose over 25 square mile blocks of range in the winter of 1964-65. In most areas a moose was observed for every one to two square miles of range, and there is no suggestion that there has been a material change in numbers of moose for the past several years. Parry Sound District staff did observe the highest number of moose yet observed on their permanent plots and it is evident that an open season for moose south of the French and Mattawa is warranted in 1965.

In an effort to discover the effect of high moose populations on their range, most districts conducted moose browse surveys using a standard method. Estimates of numbers of moose per square mile were obtained by conducting pellet group counts on a large number of systematically selected plots. These estimates could then be compared with the numbers of moose observed during aerial census work in winter.



The Department of Lands and Forests continued studies to determine the various types of parasites and diseases and their normal occurrence in Ontario's moose herd. Knowledge of the normal incidence of disease and parasites which are now present in the generally vigorous and healthy moose herd is essential if we are to detect changes in the welfare of the herd during the next few years. Several moose specimens were collected during March on Shakespeare Island in Lake Nipigon where aerial surveys had indicated very high populations of moose and subsequent browse surveys showed that the range was being badly over browsed. These moose were very carefully studied for presence of malnutrition, diseases and parasites.

Because of the very high populations of moose and the danger of malnutrition and associated vulnerability to disease and parasites, the legislation creating the Nipigon Islands and the Nipigon-Onamon Crown Game Preserves was revoked in 1965.

Tagging of moose from helicopters was again carried out by staff in the Geraldton District. This is one of the most spectacular activities of game workers in the Province and is designed to provide information on the annual movements of individual moose. Although much of the moose range is inaccessible and is lightly hunted, range adjacent to roads and accessible waterways bears the brunt of a large proportion of hunting pressure. It is possible that moose from inaccessible areas fill the vacuum created by the removal of animals during the open season and this possibility is being tested by marking animals usually twenty or more miles from the nearest hunting access. Return of the tags by hunters or sightings of colour-marked animals is essential. Only eighteen moose were tagged this year mainly because helicopters were required for forest suppression duties in late June and early July when tagging is most easily carried out. Metal ear tags and brightly coloured streamers are attached to the ears of moose when they are driven into deep water by helicopters. When the animals swims, the machine is lowered so that the moose is steered by the two floats under the aircraft. A tagger then leans out on the float, grasps an ear firmly in one hand and applies the tag and streamer with tagging pliers. This type of work yields information which is most valuable in the management of Ontario's moose herd.

## Spring Bear Hunting

Spring bear hunting remains popular in Ontario. In 1964, 2169 non-resident and 414 resident licences were sold. Bears were in good supply and success for this same species was reasonably good. Over 25% of all spring bear hunters forwarded information on their hunt and the following table compares 1964 data with the previous year's.

SPRING BEAR HUNTING 1963 - 1964

	No. Licenses Sold	No. Hunter Returns Received	% Hunter Success
<b>Non-Residents: 1963</b> .....	1999	543	43.6
<b>1964</b> .....	2169	801	41.4
<b>Residents: 1963</b> .....	354	*	*
<b>1964</b> .....	414	71	38.0

\*Information not available.

A total of 359 bears were reported taken during the spring bear hunt and the best success was reported from Geraldton, Cochrane, Port Arthur and Kapus-



kasing. The most popular areas for bear hunting were Chapleau, Kenora, Swastika and Gogama, according to the number of reports received. Americans from as far afield as Texas, Florida and Nebraska participated and two hunters from Switzerland and Germany also reported to the Department on their hunt.

The harvest of black bears in the autumn of 1964 was one of the best on record. Very mild weather during the deer season (November 2-14), across the main eastern deer range, along with an abundant acorn crop, kept bears from starting their long winter's sleep, producing excellent opportunities to bag a "bruin".

It appears that black bears are nearing a peak in abundance and hunting for this species should be good in 1965.

## Upland Game and Waterfowl

Interest in small game and waterfowl hunting continued apace in 1964. Resident hunting licence sales totalled 361,483. Non-resident small game hunting licence sales increased from 7,685 in 1963 to 7,998 this year, but resident "ground hog licence" sales dropped from 39,219 to 38,038.

Most of the upland game and waterfowl hunting in Ontario takes place in that portion of the Province located south of the French and Mattawa Rivers. Of the 135 regulated townships in southern Ontario, 80 were situated in the Lake Erie Forest District. This concentration of the bulk of Ontario's hunters in the agricultural south presents special problems. Access to private lands is becoming increasingly difficult and more and more posting of land to prevent trespassing and/or hunting is encountered. Game populations remain in good supply and scarcity of game is not a consideration or problem.

### REGULATED TOWNSHIPS IN ONTARIO

County	No. Twps.	County	No. Twps.
Brant .....	4	Norfolk .....	7
Durham .....	2	Ontario .....	3
Elgin .....	6	Oxford .....	11
Essex .....	13	Peel .....	5
Haldimand .....	10	Perth .....	7
Halton .....	4	Simcoe .....	3
Huron .....	2	Waterloo .....	1
Kent .....	10	Welland .....	8
Lambton .....	10	Wellington .....	1
Lincoln .....	7	Wentworth .....	7
Middlesex .....	9	York .....	5
		Total .....	135

Small game hunters have a variety of species to pursue in Ontario. These include pheasants, three species of grouse, cottontail rabbits, both the European and varying hares, foxes, raccoons, bobwhite quail and squirrels. Many of these are abundant on farm lands and the agricultural "edge," attracting hunters and adding to the situation described above. High hunter densities result in some instances in restrictive municipal by-laws banning the discharge of firearms. Means must be found to retain as much available farm land as possible open to hunting and to stem the tide of often deteriorating hunter-landowner relations.

Articles and timely editorials appearing in the *Fish and Wildlife Review* and in various Departmental news releases have advocated good manners on the part of hunters. These stories, stressing the need for mutual co-operation and understanding between landowners and sportsmen have been widely read and circulated. Every opportunity presented by meetings, hunter training courses and lecture tours has been utilized in impressing those gathered with this vital message.

Eventually a system of renting the hunting or trespass rights on private lands may be required. Suitable public hunting grounds have not met the demand and progress in this endeavour has been slow. Game management programmes and hunting interests have not been able to gain universal support resulting in delayed land acquisitions and deferred programmes. Some impetus is urgently required to solve this attitude. A possible solution may be the formation of county land-owner-sportsmen councils. This approach has been used elsewhere, but notably in Idaho, and has met with great success in keeping lands open to hunting and in maintaining essential contact and good relations between landowners and sportsmen.

The same pressures are not encountered in northern Ontario since much of the land here is in the Crown and because the population density is far below that of the south. The variety of small game available in the north is limited, waterfowl, the grouse species and varying hares being the chief quarry sought. Hunting pressure in this extensive area remains light. In the north, too, access is a problem, but here the problem is that of insufficient access owing to lack of road networks.

Comments and observations are presented below on the main small game species and on waterfowl. Some of the major field programmes involving these are described.

## Pheasants

This species is most abundant in the Forest Districts of Aylmer, Hespeler, Maple and Lindsay, reaching its zenith of popularity on Pelee Island in Essex County. Along with fox and rabbits, pheasants in most of agricultural southern Ontario are the subject of special regulations in the form of a regulated township licence requirement. Pheasant hunting is also offered at four Provincial public hunting grounds, (see below), and at many private shooting preserves, as well.

Again in 1964, the two Provincial Game Bird Farms at Codrington and Normandale, provided pheasant chicks, poults and adults for distribution over most of the suitable pheasant range in Ontario. Birds supplied as chicks were in turn entrusted to township bodies, sportsmen's groups and interested individuals for rearing and subsequent release. Poults are either released directly or after a period of "conditioning" in gentle-release pens. Almost all the adult birds were retained for release at the Department operated public hunting grounds.

The Table below shows the numbers of pheasants produced at the two game bird farms in 1964 and the allocation of these birds.

District	Chicks	CODRINGTON			Stock	NORMANDALE			Stock
		Poults	Adults			Poults	Adults		
Aylmer	—	—	—	—	32,750	6,000	800	—	200
Hespeler	10,000	4,800	—	—	1,000	—	250	—	600
Maple	5,500	4,500	450	400	2,000	—	350	—	1,300
Lindsay	7,000	—	750	1,500	—	—	—	—	—
Kemptville	—	200	200	100	—	—	—	—	—
Total	22,500	9,500	1,400	2,000	35,750	6,000	1,400	—	2,100

Pheasants reach their greatest abundance in an association of fertile agricultural land with comparatively mild winters. They have declined in parts of Essex and Kent Counties which are touted as being the best as far as farming land is concerned. The probable causes are (1) more intensive farming practices which

have reduced pheasant cover and (2) increased use of insecticides and herbicides. Studies to ascertain the specific cause of the decline are underway.

Pheasant studies conducted in the Lake Simcoe district indicated that the survival of poults is much lower than that of adults. It follows that the closer the birds are planted to the opening day of the season, the larger is the proportion taken by hunters compared with those lost to the elements, predators and accidents. More birds will be raised to the adult stage prior to release and the game bird farm production will be geared accordingly. The demand for adult and stock birds at the public hunting grounds intensifies this phase of the hatchery program.

## PELEE ISLAND PHEASANT SHOOT

Pheasant hunting on Pelee Island in 1964 was held in two periods, October 22-23 and October 29-30. This was a departure from the former two day seasons. The aim was to reduce hunter congestion while allowing a large number of hunters to participate in the Island hunt. There were 1,321 hunters who took part in the special four-day Pelee season, an increase of 307 (or 30%) over that of the 1963 season.

In all, 10,533 birds comprised of 7,612 cocks and 2,921 hens were bagged by the hunters. The average take was 7.73 birds per hunter representing a harvest effort rate of 0.70 birds per hunter hour. More than half the hunters were successful in obtaining their quota of ten birds each. The crippling losses were estimated to be 2,314 birds or 20.6% of the total bag. Hence, the total mortality of pheasants at Pelee as a result of the shoot was in the neighbourhood of 12,850 birds.

The increase in the number of hunters was reflected in a 24% increase in harvested birds and in a 28.5% rise in crippling losses as compared with 1963 figures. It was also reported that the water level in the ditches and canals was the lowest in 18 years and as a result the birds were concentrated in the woodlots, corn fields and rough lands adjacent to canals with a reasonable supply of water. This undoubtedly contributed to the success enjoyed by Pelee pheasant hunters.

Some hunters met with difficulty in trying to flush birds out of unharvested corn fields. Although, as expected, a number of hunters did complain that they had not obtained the full limit, the fact that many filled their quota, 47% of hunters in the first shoot and 66% in the second, indicates that this is truly a quality hunt.

Data collected by Lake Simcoe staff show that 5,518 township licences comprised of 2,047 "resident" and 3,471 "non-resident" licences were sold in the 13 regulated townships within their district. This represents a decrease of 10.6% compared with 1963 sales but most of this can be accounted for by the "opting out" of Albion Township from the regulated township scheme. Difficulties in other Peel County townships probably depressed licence sales, too. Almost 1,800 hunters were checked by Simcoe District officers and their harvest of 964 birds reveals an average take of 0.53 birds per hunter. This success figure represents an increase of 15% over that of 1963. The effort decreased from 1963 by one hour per bird to 6.4 man hours per bird in 1964. Poor weather did depress opening day hunter success but pheasant hunters in King, Pickering and Chingacousy Townships averaged one to one and a half birds per hunter. In Markham Township, where no birds were released prior to the season, hunters fared reasonably well, averaging .85 birds per hunter on opening day and attaining an average of .61 birds per hunter for the entire season. The next table provides information on the Lake Simcoe Forest District 1964 pheasant hunt.



	Opening Day	Entire Season
No. of Parties Checked in Field .....	251	712
No. of Parties Using Dogs .....	141	427
No. of Hunters Checked in Field .....	670	1795
No. of Man-hours Hunted .....	1941	6182
No. of Cocks Bagged .....	251	578
No. of Hens Bagged .....	175	386
Total Pheasants Bagged .....	425	964
Cock Pheasants per Hunter .....	.37	.32
Hen Pheasants per Hunter .....	.26	.22
Total Pheasants per Hunter .....	.63	.54
Man-hours expended per pheasant .....	4.6	6.4

## Ruffed Grouse

Again in 1964 Department staff collected ruffed grouse inventory and harvest data required for proper management of this popular game bird. Tables following this section show summaries of ruffed grouse brood counts (Table I), sex and age ratios of grouse taken by hunters (Table II) and grouse hunter success (Table III).

One of the prime objectives in gathering game inventory data is to predict hunting prospects for each species. Grouse brood production statistics are most important in this respect. June to September counts are detailed by districts in Table I. Age and sex information (Table II), was determined from analysis of wing and tail feather collections.

The quality of ruffed grouse hunting may be assessed by annual comparisons of birds shot and/or seen by hunters per unit time or distance travelled, (by vehicle). In Ontario, grouse are usually hunted by one of two methods. In the south, most hunters walk through likely grouse cover flushing birds. The use of dogs increases the chances of success in this type of hunting. In the north the usual practice is that of driving the bush roads searching for birds feeding along the edges of the right-of-way. Grouse are less wary in the north hence can be shot more easily. Data on hunting success comparing birds seen and shot by the two hunting methods are presented in Table 3.



## RUFFED GROUSE BROOD COUNTS 1964

	June		July		August		September		Total 1964		Total 1963		Total 1962	
	No. Broods	Yg/ Ad	No. Broods	Yg/ Ad	No. Broods	Yg/ Ad	No. Broods	Yg/ Ad	No. Broods	Yg/ Ad	Average Yg/Ad	Average Yg/Ad	Average Yg/Ad	Average Yg/Ad
Lake Erie .....														
Lake Huron .....														
Lake Simcoe .....														
Lindsay .....														
Tweed .....	16	7.0	15	5.3	10	5.0	4	4.0	45	5.4		7.0	7.2	
Kemptville .....												5.2	6.9	
Pembroke .....	32	5.7	24	5.4	7	4.8	1	5.0	64	5.2		5.9	6.0	
Parry Sound .....												3.8	5.4	
North Bay .....	27	5.1	56	4.2	33	4.8	10	3.1	126	4.3		5.7	7.0	
Sudbury .....	11	8.3	10	7.3	25	6.5			46	7.1		4.0	5.2	
Sault Ste. Marie .....	8	6.1	8	5.4					14	5.7		6.3	7.0	
White River .....	4	10.0	33	6.3	6	5.7			43	7.3		5.5	5.4	
Chapleau .....	10	6.7	32	5.0	37	5.4	4	5.2	81	6.3		4.7	6.2	
Gogama .....	5	6.6	12	5.5	1	4.0	5	6.2	23	5.8		5.3	5.2	
Swastika .....												5.3	5.1	
Cochrane .....		6.5		5.5		5.7			78	4.9		5.0	7.0	
Kapuskasing .....	1	5.0	18	6.4	9	6.8	1	3.0	46	5.6		7.3		
Geraldton .....	2	3.5	14	5.2	14	5.1	6	6.2	29	6.4				
Port Arthur .....	7	5.7	34	6.9	35	4.0			36	5.3		5.4	5.9	
Fort Frances .....	14	7.0	17	8.0	8	5.9			76	5.5		5.9	4.7	
Kenora .....	8	5.0	23	8.4	15	7.7	2	3.5	39	7.2		5.1	6.2	
Sioux Lookout .....									48	6.1		5.2	5.2	
													5.7	

# COMMERCIAL PHEASANT PROPAGATORS

District	Number of Farms	PURCHASES			Dressed Birds	SALES		Live Adults	On Hand Mar. 31/65
		Eggs	Chicks/Poults	Adults		Eggs	Chicks/ Poults		
Aylmer .....	35	513	9,051	5,720	8,914	1,258	34,309	12,051	4,856
Hespeler .....	46	94	2,586	716	4,152	236	436	4,473	876
Maple .....	17		8,390	100	676		3,025	644	266
Lindsay .....	14		1,150	269	825	146	382	199	597
Tweed .....	10				1,038	284	80	33	963
Kemptville .....	8	372	778	20	1,356			9	103
Pembroke .....	1				12				
Parry Sound .....	2		206	2				307	135
Sudbury .....	2		350		468				81
Sault Ste. Marie .....	5		3,500		932	24	500	1,123	244
Cochrane .....	1			7		25	25	10	90
Fort Frances .....	2	100	200		6	—	—	—	111
Totals .....	143	1,079	26,211	6,834	18,379	1,973	38,757	18,849	8,322

\*Based on incomplete returns.

COMMERCIAL PHEASANT FARMS

A slight decline was noted in certain activities of commercial pheasant propagators. Decreases were noted in the number of farms, in the sales of dressed birds and eggs and in the purchase of adult birds as compared with 1963. On the other hand, the purchase of eggs, chicks and poults and the sale of chicks, poults and adult live birds rose considerably over that of 1963. Commercial pheasant propagators are improving both their stock and facilities and many are now on a sound financial footing. The activities of these propagators are recorded in the following table.

GAME BIRD HUNTING PRESERVES

The report of game bird hunting preserve owners/operators shows that operations have become stabilized. Although there was a decrease in numbers of preserves from thirty-three to twenty-nine over the past year, use by hunters and game birds handled have remained nearly constant. Hunting opportunities provided by the private sector are necessary to fill the void in certain areas of the Province where public hunting grounds are not readily accessible to hunters.

GAME BIRD HUNTING PRESERVE OPERATORS

District	Number of Preserves	Total Purchases	Total Release	Number of Birds Harvested	Number of Hunters	Stock Mar. 31/65
Aylmer .....	12	7,960	9,040	6,505	1,516	3,671
Hespeler .....	5	7,185	9,262	6,297	1,134	836
Maple .....	2	5,131	2,056	890	375	230
Lindsay .....	5	769	3,004	1,985	600	772
Tweed .....	3	60	4,370	3,009	375	715
Sault Ste. Marie..	2	3,500	2,400	600	310	175
Totals .....	29	24,605	30,132	19,286	4,310	6,399

\*Based on incomplete returns.

Hungarian Partridge

Portions of Dundas, Russell, Stormont and Carleton Counties in the Kemptville District are the hard core of Hungarian partridge populations in Ontario but small numbers occur also in the Niagara Peninsula and in Elgin, Prince Edward, Essex, Bruce and Huron Counties.

Last year "Huns" were reported as scarce in the Kemptville District and poor hunter success reflected this shortage. Few coveys of young birds were seen during the summer, though the weather from May to July was generally favourable which should have contributed towards a successful hatch.

During the 1964 hunting season, Kemptville District officers collected ninety-seven wing specimens of Hungarian partridge for age and sex determinations. These data are included in the table below.

## HUNGARIAN PARTRIDGE EXAMINED 1961-64 KEMPTVILLE FOREST DISTRICT

Year	No. Birds	Adults			Juveniles		
		♂	♀	Unsexed	♂	♀	Unsexed
1961.....	631	62	56	3	185	223	102
1962.....	705	81	66	6	174	203	175
1963.....	129	22	16	1	40	50	—
1964.....	97	9	12	—	40	36	—

Pertinent Hungarian partridge age and sex ratio data as provided by the Kemptville staff appear in the next Table.

### SEX AND AGE RATIOS OF HUNGARIAN PARTRIDGE EXAMINED — 1961-64

Year	Total Birds	Juv./ Ad. ♀	Adults		Juveniles	
			% ♂ ♂	% ♀ ♀	% ♂ ♂	% ♀ ♀
1961.....	631	9.1	52.5	47.5	45.4	54.6
1962.....	705	8.4	55.1	44.9	46.2	53.8
1963.....	129	5.6	59.0	41.0	44.4	55.6
1964.....	97	6.3	42.9	57.1	52.6	47.4

Attempts to rear Hungarian partridge held in captivity at Codrington Game Bird Farm are continuing but some difficulties have been experienced in brood stock survival. Eventual plans involve the introduction of successfully reared progeny to suitable or likely Hungarian partridge range in other parts of the Province.

## Bobwhite Quail

The native quail population concentrated in the five Counties of southwestern Ontario, (Essex, Kent, Lambton, Elgin and Middlesex), have continued their spread and growth in numbers from what was once a virtually extirpated remnant population. A three-day season was declared for this species in the Townships of Raleigh (Kent County), and Plympton (Lambton County), in 1964. The 1963 season was only of two days' duration in the same area. If the rebounding of quail continues in the same pattern it will be possible to embrace a larger area within the open season in future years, thus adding recreational opportunities for those who wish to try their hand at these little "gamesters".

Another aspect of the bobwhite is under close surveillance in Ontario. This is the attempt to develop a hardy breeding stock in captivity at the Normandale Game Bird Farm. One of the main objectives in raising such quail is to supply game bird breeders of Ontario with a hardy native strain for release on private shooting preserves. The importation of southern quail would undoubtedly cause a weakening of the hardy Ontario strain, (dilution of the gene pool). Aylmer officers have added wild quail eggs to the Normandale nucleus in an effort to spur production of these most desirable game birds.

## Woodcock

This little, but highly valued, game bird is taken principally by devotees who enjoy watching good bird dogs at work and who also are sufficiently skilled to shoot the bird in flight.



During 1964, initial steps were taken to implement a summer banding programme of woodcock. This study was aimed at complementing research already being carried out by the U.S. Fish and Wildlife Service on this species. Staff of southern Ontario districts were requested to find areas where the birds congregated in July and August to feed on insects in dry open meadows.

Most districts were successful in locating such areas but to date the only banding that has taken place has been the 11 birds banded by the Tweed staff. The usual equipment in capturing woodcock is a mist-net or a strong spotlight. Tweed officers used the spotlight and dip-net approach in the capture of their eleven birds.

Ontario woodcock hunters were asked to provide woodcock wing specimens for age and sex determination studies conducted by the U.S. Fish and Wildlife Service.

## Sharptailed Grouse

The five-year programme of transplanting sharptailed grouse captured in the Fort Frances District to selected sites in the Lindsay District was set back when difficulties arose in live-trapping the birds. Although the initial planting of forty sharptails at Balsam Lake Park, (March 18, 1963), appeared to have been successful, an additional plant would have been beneficial.

Observations by Lindsay staff confirm that at least part of the initial stock have survived and that probably some birds were successful in producing young. Birds have been heard by local residents of the area and a few individual grouse have been seen by the field staff.

It is hoped that further transplants of the prairie sharptail in other locations in southern Ontario will materialize. Staff at Fort Frances reported the sighting of fifteen broods of prairie sharptailed grouse averaging 8.3 young per adult female. Brood counts of northern sharptailed grouse by Geraldton staff revealed an average of 7.4 young per adult female and by Cochrane staff an average of 6.0 juveniles per adult female.

## Spruce Grouse

This species is found mainly in that portion of the province north of the French and Mattawa Rivers. Relatively few are taken by hunters who appear to show a preference for ruffed grouse. Northern districts reported a fairly high population of these birds but because they are not heavily hunted, records of their harvest are meagre. Gogama staff reported that hunters on foot saw thirteen and shot ten spruce grouse per one hundred hours of hunting while those hunting by driving saw 2.3 birds and shot 1.8 per one hundred miles of driving. Staff of four Forest Districts observed several spruce grouse broods as follows:

District	Broods Seen	Young Birds per Adult Female
Geraldton .....	6	5.7
Cochrane .....	6	4.5
Fort Frances .....	8	6.7
Gogama .....	4	3.5

Table 2

## SEX AND AGE RATIO OF RUFFED GROUSE TAKEN BY HUNTERS 1964

	Sample Size	ADULT				JUVENILE				1964		1963		1962	
		♂	♀	?	♂/♀	♂	♀	?	♂/♀	Age Ratio Juv./Ad. ♀	Age Ratio Juv./Ad. ♀	Age Ratio Juv./Ad. ♀	Age Ratio Juv./Ad. ♀	Age Ratio Juv./Ad. ♀	Age Ratio Juv./Ad. ♀
Lindsay .....	87	—	5	—	—	—	—	—	—	14.0	6.3	—	—	1.5	—
Tweed .....	123	24	14	5	1.8	39	29	12	1.3	4.8	—	—	—	—	—
Kemptville .....	56	7	3	5	2.3	8	16	17	0.9	13.6	6.3	—	—	1.5	—
Parry Sound .....	402	78	36	5	2.1	132	137	14	0.9	7.8	3.9	—	—	7.9	—
North Bay .....	706	143	104	—	1.3	257	202	—	1.2	4.4	—	—	—	5.8	—
Sault Ste. Marie .....	94	47	38	9	1.2	95	87	9	1.0	5.0	5.3	—	—	14.7	—
White River .....	155	35	17	3	2.0	31	51	18	1.1	5.9	4.6	—	—	6.4	—
Gogama .....	315	90	49	—	1.8	106	70	—	1.5	3.5	4.0	—	—	8.2	—
Swastika .....	517	70	74	—	0.9	155	218	—	0.7	5.1	7.1	—	—	8.0	—
Cochrane .....	111	15	13	—	1.1	49	34	4	1.4	6.4	3.6	—	—	2.6	—
Kapuskasing .....	51	17	12	2	1.4	7	8	5	0.8	1.6	—	—	—	—	—
Fort Frances .....	234	41	33	—	1.2	78	82	—	0.9	4.8	—	—	—	—	—
Kenora .....	356	—	—	—	1.5	—	—	—	1.1	4.6	3.6	—	—	5.5	—
Total .....	3,207	567	398	29		957	934	79							

Table 3

# RUFFED GROUSE HUNTER SUCCESS By Roads

	On Foot			By Roads								
	Total Hunter Days	Total Hours	1964 Birds Seen 100 hr.	1964 Birds Shot /100 hr.	1963 Birds Shot 100 hr.	1962 Birds Shot 100 hr.	Total Hunter Days	Total Miles	1964 Birds Seen /100 ml.	1964 Birds Shot /100 ml.	1963 Birds Shot /100 ml.	1962 Birds Shot /100 ml.
Lake Erie .....	55	518	101.0	22.7	28.0	22.4	—	—	—	—	—	—
Lake Huron .....	979	3666	—	58.0*	36.0	—	—	—	—	—	—	—
Lake Simcoe .....	40	317	173.5	44.4	30.7	30.3	—	—	—	—	—	—
Lindsay .....	32	109	77.0	14.7	16.6	35.7	31	822	6.3	3.4	—	2.7
Tweed .....	—	—	—	—	—	34.1	45	525	—	1.7	—	7.6
Kemptville .....	75	135	—	60.7	77.0	20.9	—	—	—	—	—	—
Pembroke .....	176	448	95.3	35.0	27.8	33.9	97	1860	8.1	4.0	6.3	6.3
Parry Sound .....	169	432	116.2	48.6	39.3	37.7	149	2680	8.6	4.3	3.9	6.7
North Bay .....	178	541	58.2	31.2	44.2	53.8	188	3082	10.4	5.7	2.4	5.3
Sudbury .....	104	278	56.0	32.0	43.0	13.0	119	4840	4.9	3.6	2.8	1.9
Sault Ste. Marie .....	—	270	—	41.6	41.9	31.4	—	1688	—	3.7	3.1	3.3
White River .....	—	144	60.9	40.1	10.3	47.5	—	1876	6.3	4.4	0.8	11.5
Chapleau .....	120	1033	—	53.0	30.3	42.0	113	1391	—	3.9	—	—
Gogama .....	21	36	75.0	67.0	14.0	—	51	2089	4.1	2.6	2.0	—
Swastika .....	16	345	53.0	38.0	59.0	34.9	3047	18	8.5	5.4	3.9	4.4
Cochrane .....	—	296	84.7	41.5	54.1	65.3	32	2541	4.9	3.1	5.7	5.7
Kapuskasing .....	19	38	94.7	55.2	59.8	53.8	34	805	4.5	4.0	5.1	3.2
Geraldton .....	185	289	38.7	28.0	25.0	16.5	141	3253	2.8	1.9	1.2	2.3
Port Arthur .....	—	—	—	—	—	29.7	—	—	—	—	—	—
Fort Frances .....	122	313	—	43.1	—	—	86	121	—	56**	—	—
Kenora .....	95	138	—	65.8	40.0	36.0	11	209	12.4	7.6	3.8	3.1
Sioux Lookout .....	69	265	130.5	64.2	51.3	23.8	48	1378	10.7	5.8	5.5	3.9

\* — Incomplete data.  
\*\* — Per hundred hours.

## Rabbits and Hares

Cottontail rabbits and European hares ("jack rabbits") are two of the mainstays of hunting along with pheasants, in the southern agricultural regions of the Province. The varying hare (snowshoe hare) is the common species throughout the Precambrian Shield country but it is not hunted heavily.

The tables below show comparisons of hunting success on these species in the districts of Hespeler and Maple.

RABBIT AND HARE HUNTER SUCCESS BY COUNTIES — 1964  
— HESPELER DISTRICT —

County	No. of Hunters	Total Man Hours	Avg. Hours Hunted	Average "Cotton-tails"	take per man "Jacks"	hour of "Snow-shoes"
Brant .....	72	178	2.4	.12	—	—
Bruce .....	158	490	3.1	.003	.04	.01
Grey .....	400	1383	3.1	.002	.09	.09
Halton .....	84	153	1.7	.08	.01	—
Huron .....	34	169	3.6	.19	.16	—
Oxford .....	9	14	1.5	.20	—	—
Perth .....	88	390	5.0	.27	.34	—
Waterloo .....	289	684	2.4	.06	.05	—
Wellington .....	173	624	3.4	.13	.15	.14
Wentworth .....	74	201	3.1	.08	—	—
Totals .....	1381	4286	2.9	.11	.08	.02

COTTONTAIL RABBIT HUNTER SUCCESS — 1964  
MAPLE DISTRICT

	Area 4	Area 6	Whole District
Hunters Checked .....	144	656	800
Man-Hours Hunted .....	477	1925	2402
No. of Rabbits .....	35	347	382
Hunter Success .....	24%	53%	48%
Man-Hours Per Rabbit .....	13.6	5.6	6.3

## Squirrels

Grey squirrels (including the black phase), are common to abundant in southwestern Ontario and occur sporadically in the "shield country". Despite the very liberal open season on this species there are very few ardent squirrel hunters in Ontario. Most squirrels are apparently taken incidentally while hunters are in pursuit of other game.

## Mourning Doves

Department officers in the districts of Aylmer, Hespeler, Maple, Lindsay, Tweed, Kemptville and Pembroke, assisted in some instances by dedicated naturalists, conducted the mourning dove call count survey again in the spring of 1964. This annual inventory was carried out at the request of the Canadian Wildlife Service.

Some increase in dove numbers and extension in range of the species were noted by observers. Though there is no open season on this species in Ontario, it is



known that birds produced here contribute to the harvest in the United States. In some of the states there is particularly heavy hunting pressure exerted on doves during their southward migration flights.

## Waterfowl

The primary jurisdictional responsibility for waterfowl rests with the Federal Government under authority of the Migratory Birds Convention Act, but Ontario does undertake a considerable degree of waterfowl management work. District Fish and Wildlife staff undertook several projects in co-operation with Canadian Wildlife Service personnel while others were co-operative efforts involving either the Atlantic or Mississippi Flyway Councils.

The midwinter waterfowl inventory, an annual project, is a good example. For this extensive survey, member states and provinces of both the Atlantic and Mississippi Flyway Councils carry out counts from the air and on the ground during a designated period of time. The observations are compiled and pooled and estimates of total populations of ducks and geese are derived. Though these figures are not absolute, they do, nevertheless, indicate general population trends which are so necessary in waterfowl management and in the setting of open seasons and bag limits for the following year. The following table presents a summary of information collected by Lands and Forests staff and private individuals in January 1964.

### MID-WINTER WATERFOWL INVENTORY JANUARY 10-16, 1965

Species	Area I	Area II	Area III	Area IV	Area V	Area VI	Area VII	TOTALS
Mallard .....	801		2,296	1,223	50	285	385	5,040
Black .....	1,266	1	1,598	2,506	100	700	744	6,915
Redhead .....	41		25	1,282	10			1,358
Canvasback .....	8		5	1,941				1,954
Gt. Scaup .....	3,348		7,861	2,778	2,200	9,065		25,252
Less Scaup .....	2							2
Com. Goldeneye ..	562	836	1,078	2,037	250	3,265	12	8,040
Bufflehead .....	155		201	1,500	100			1,956
Oldsquaw .....	246	236	9,949	45	1,000			11,476
Com. Merganser...	283	9	30	271	100	125	1	819
Hd. Merganser ..	3		1					4
Gadwall .....			1					1
Ring-neck Duck ..	2		1					3
W-w. Scoter .....	2		2		40			44
Wood Duck .....			1	7				8
R-b. Merganser ..	8							8
Pintail .....	3		2	3				8
Am. Widgeon .....	17		7					24
G-w. Teal .....			1	1				2
Shoveler .....			1					1
Totals .....	6,747	1,082	23,060	13,594	3,850	13,440	1,142	62,915
Blue Goose .....	1							1
Canada Goose .....	7		108	8,300		35		8,450
Mute Swan (feral) ..	3							3
Whistling Swan ..	1			64				65
Coot .....	6			100				106
Unidentified .....				2,148	400		139	2,687
Total Waterfowl...	6,765	1,082	23,168	24,206	4,250	13,475	1,281	74,227

Area I —Hamilton Nat. Club.

Area II —Oshawa Nat. Club.

Area III—Toronto Orn. Club.

Area IV—L. Erie. & J. Miner's Sanct.

Area VII—Brantford Nature Club; W. H. Schaefer, Ont. Agricultural College.

Area V—Tweed

Area VI—Kemptville & J. Bayly,  
Brockville.

Many of the districts conducted summer surveys of duck populations. In some areas counts were made of breeding pairs while other districts concentrated on post-hatching brood counts for various duck species. These studies are essential in determining the relative success of the hatch, the survival of young ducks and the limits of breeding range of the key duck species across the Province.

Waterfowl banding is another important phase of management in Ontario. Cooperative banding projects are carried out largely by our own staff with some help and encouragement from the Canadian Wildlife Service, the U.S. Fish and Wildlife Service and the Flyway Councils. Since waterfowl winter in the south but spend a good portion of their life in Canada, it is logical that much knowledge can be gained by such projects as banding while the birds are here during the breeding season.

Recoveries of birds banded in Ontario contribute to the general understanding of waterfowl population dynamics and assist in determining the effects and safe margins of hunting. Not only are migration patterns confirmed but also an estimate of the total kill and the varying vulnerability rates of the many species and age groups of waterfowl may be obtained from this source.

During the summer and early fall of 1964, banding programs were conducted by staff and interested individuals or groups in fourteen administrative districts. The results of the cooperative waterfowl banding effort in Ontario is presented in the Table entitled, *Summary of Waterfowl Banding in Ontario, 1964*.

The provision of quality waterfowl hunting in southern Ontario where most of the best and largest marshes are in private hands, pose acute management problems. Public areas are so few and far between and so overcrowded on opening day that they cannot accommodate all hunters. Managed public shooting areas have successfully filled part of this void and have provided quality waterfowl hunting; the number of these units must be stepped up considerably if the needs of all hunters are to be met.

Wetland sanctuaries, which hold waterfowl throughout the season, have extended hunting opportunities in some areas but here again the paucity of these suggests that acquisition of suitable marshes and wetlands is of prime importance.

## Public Hunting Grounds

Public hunting for pheasants was provided in four different Provincial parks and on the Gananoque public hunting area in recognition of the multiple use concept for publicly owned lands. The pheasant shooting season in the parks commences two days after the Thanksgiving holiday. At this time, it has been found that there is little demand on the park facilities for any recreation except hunting and there is no conflict in use.

Both male and female birds which are used in this type of hunting are transferred to park holding pens and released at a rate of about two birds per paid hunter. Hunting is permitted every day except Sunday, and the daily fee is \$5.00 per hunter with a bag limit of three pheasants of any sex. Licences are available on a first-come-first-served basis with the hunters lining up for their licences at the park gate. A total of twenty-five hunters are allowed at one time in each area with the exception of Earl Rowe Provincial Park where thirty-five hunters are allowed.

These hunting opportunities have been enthusiastically received by many upland bird hunters; many are anxious to work their dogs in cover which is known to contain birds.

A summary of the operations in our four public pheasant hunting areas is shown in the following table. This method of utilizing adult birds not only meets with the approval of the general shooting public but it ensures that a good return is received from birds which might otherwise be lost to other causes before they are harvested.

#### SUMMARY OF PHEASANT PUBLIC HUNTING AREAS — 1964

	Presqu'île	Darlington	Sibbald Point	Earl Rowe
Hunting Area in Acres .....	415	415	250	350
Number of Hunters .....	240	755	510	712
Number of Birds Released .....	450	1150	795	1167
Number of Birds Recovered .....	380	1040	665	1015
Per Cent Return .....	84.4	90.5	83.8	86.9
Birds per Hunter .....	1.6	1.4	1.3	1.4

#### WATERFOWL

There are also five waterfowl public hunting areas associated with parks adjoining marsh land.

At Long Point and Rondeau parks waterfowl hunting was permitted on Monday, Wednesday, Thursday and Saturday, from 7 a.m. to 5 p.m. The daily licence fee was \$4.00 per blind for one or two men. In the area without blinds the fee was \$1.00 per day at Long Point, and \$4.00 per season at Rondeau.

At Holiday Beach and Presqu'île parks no blinds were provided and hunting was permitted on Monday, Wednesday, Thursday and Saturday. The annual fee here was \$4.00 with no restriction on number of licences available.

At Darlington, hunting was permitted on Monday, Wednesday and Saturday, for a daily fee of \$2.00 per hunter.

#### SUMMARY OF WATERFOWL PUBLIC HUNTING AREAS — 1964

	Long Point	Rondeau	Presqu'île	Darlington	Holiday Beach
Hunting Area in Acres .....	1700	3000	600	100	*
Number of Hunters .....	1926	720	287	447	446
Number of Waterfowl Taken .....	2164	1080	*	407	*
Average Kill per Hunter .....	1.12	1.4	*	0.9	*

\*No data.

# SUMMARY OF WATERFOWL BANDING IN ONTARIO

LE.	LS.	TW.	PS.	CO.	SU.	PA.	FF.	KP.	GG.	LN.	GE.	PM.	KM.	Dept. Total	Non- Dept. Total	Total for Province
Mallard	572	35	14	18	211	127	392	215	15		141	2		1742	758	2500
Black	72	150	52	9	174	453	10	246	130		143	30		1469	315	1784
Woodduck	92	43	107		3		20		1	86		42		413	34	447
B.W. Teal	1897		1	4	20	22	64	1				1		2010	28	2038
G.W. Teal	6	1		6	51	7	3	3						77	22	99
Pintail	2	2				11	3	5	1		4			28	1	29
Scaup (L)		1												1	2	3
Ringneck					3			1	3		17			24	2	26
Widgeon							4	4	1		5			14	13	27
Canada Goose													19	19	20	39
Goldeneye															1	1
Redhead															45	45
Emp. Goose															1	1
Lesser Snow Goose															5	5
Blue Goose																
Whitefront															27	27
Shoveler															5	5
Gadwall															7	7
															8	8
Total	2641	19	232	174	37	462	620	496	475	151	310	75	19	5797	1294	7091



The greatest concentration of wild geese in Ontario occurs in the James Bay and Hudson Bay lowlands. There was a substantial increase in the numbers of geese taken during the James Bay hunt last year. A combination of heavier hunting pressure, favourable weather and the excellent hatch last summer were the chief factors contributing to the greater harvest. Statistics of geese harvest, compiled by Cochrane staff, are as follows:

#### MIGRATORY BIRD KILLS EXAMINED AT CHECKING STATIONS AND AT LICENSED CAMPS IN THE COCHRANE DISTRICT — 1964

Blue and Snow Geese .....	23,467	
Canada Geese .....	951	
Ducks .....	3,073	
Snipes .....	64	
Total .....	27,491	
No. of Canadian Hunters .....	2,365	
No. of American Hunters .....	390	
No. of Treaty Indians .....	772	
Total .....	3,527	plus 267 hunters with no kills.

#### COMPARISON OF MIGRATORY BIRD KILLS IN JAMES BAY AREA, COCHRANE DISTRICT 1957-64

(Including spring waterfowl harvest by  
resident Indian population.)

Year	Canada Geese	Blue - Snow	Ducks	Totals
1957.....	4,124	22,736	6,229	33,089
1958.....	6,685	30,844	7,963	45,492
1959.....	9,097	31,158	8,067	48,322
1960.....	7,850	33,926	7,141	49,190
1961.....	6,022	27,727	8,121	41,870
1962.....	9,054	27,316	5,898	42,268
1963.....	6,797	26,906	7,600	41,313
1964.....	9,326	34,906	7,152	51,384

The cooperative Canada goose management project near Morrisburg, on lands of the Ontario-St. Lawrence Development Commission, is progressing well and more geese stopped at the sanctuary in the fall of 1964 than in any previous fall. A count made on October 12th revealed that almost 2,000 birds were present and on October 20th there were about 1,400 geese. The number of geese harvested by hunters was the highest on record and estimates place the kill at over 100 birds, which is most encouraging. Similar Canada goose projects are in various stages of development in the Lake Simcoe and Lake Huron Districts.

#### WOLF BOUNTY 1964 - 1965

The Wolf and Bear Bounty Act authorizes the payment of a \$25.00 bounty on a timber or brush wolf three months of age or over and a \$15.00 bounty on a timber or brush wolf under three months of age.

The whole pelt of the wolf must be presented as evidence on wolves killed

in the Counties and the Provisional Judicial District of Manitoulin. However, the whole unskinned head of the wolf may be presented in lieu of the whole pelt, on wolves killed in the Provisional Judicial District except Manitoulin. The Department pays the whole bounty on wolves killed in the Provisional Judicial Districts; whereas on wolves killed in the Counties the Department pays 40% of the bounty and the respective County pays the remaining 60%.

The following table shows the number and species of wolves killed and the amount of bounty paid during the past five years:

Period	Timber	Brush	Pups	Total	Bounty
For year ending Mar. 31, 1961 .....	1320	761	57	2138	\$48,766.00
For year ending Mar. 31, 1962 .....	1136	794	68	1998	\$44,510.00
For year ending Mar. 31, 1963 .....	1276	691	64	2031	\$44,664.00
For year ending Mar. 31, 1964 .....	1342	862	61	2265	\$44,999.00
For year ending Mar. 31, 1965 .....	1638	1052	63	2753	\$59,997.00

A total of 1,934 claims were received and considered by the Department. Eight claims representing five wolves and three dogs were refused.

There was a 21.54% increase in the wolf kill this year compared to the previous year. However, of this increase 164 claims or 8.14% of the kill were carried over from the 63/64 fiscal year into this fiscal year due to lack of funds in the wolf bounty appropriation for 1963/64.

Statistical information obtained from the claims show 162 wolves were killed by cars and trucks on highways or other roads. This represents an increase of 67% over the road-kills in the previous fiscal year. Six wolves were killed by trains and one was killed by skidoo. While most of the above were killed under accidental circumstances, special permits were issued to hunt and shoot 302 wolves from aircraft. This represents an increase of 39.17% in the number of wolves killed from aircraft, as compared to the fiscal year 1963/64, and 87.58% increase over the fiscal year 1962/63.

A report of the Wolf Research Project will be found in the Research Branch's section of the Annual Report.

The following Table shows the number of wolves killed by County and District on which claims for bounty were received:

County	Timber	Brush	Pups	Total
Brant .....		1		1
Bruce .....		32		32
Carleton .....		9		9
Dufferin .....		2		2
Dundas .....		5		5
Durham .....		20	1	21
Elgin .....		2	3	5
Essex .....		12		12
Frontenac .....	7	25		32
Glengarry .....		11		11
Grey .....		13	1	14
Hastings .....	14	21	2	37
Huron .....		4		4

Kent .....		14		14
Lambton .....		12		12
Lanark .....		14		14
Leeds & Grenville .....	1	29	1	31
Lennox & Add. ....	9	12	1	22
Middlesex .....		1		1
Norfolk .....		8		8
Northumberland .....		14	13	27
Ontario .....		7		7
Peterborough .....	13	14		27
Prescott .....		6		6
Prince Edward .....		12		12
Renfrew .....	99	11		110
Simcoe .....		49		49
Stormont .....		1		1
Victoria .....	3	12		15
Waterloo .....		1		1
Welland .....		5		5
York .....		3		3
Total Counties .....	146	382	22	550

District	Timber	Brush	Pups	Total
Algoma .....	125	101	1	227
Cochrane .....	138		16	154
Haliburton .....	38	5		43
Kenora .....	379	104		483
Manitoulin .....	12	47	9	68
Muskoka .....	29	24		53
Nipissing .....	156	28	1	185
Parry Sound .....	108	19		127
Rainy River .....	88	168	4	260
Sudbury .....	124	99	3	226
Timiskaming .....	41	17	5	63
Thunder Bay .....	254	58	2	314
TOTAL				
DISTRICTS .....	1492	670	41	2203
TOTAL				
COUNTIES .....	146	382	22	550
GRAND TOTAL .....	1638	1052	63	2753

## FUR MANAGEMENT

It was apparent by mid-season that Ontario's wild fur production for 1964-65 would be lower than that recorded for the year 1963-64. The drop of 24% in value for beaver did little to encourage the trapper and the majority lifted their beaver traps earlier than usual. In addition to the price drop, the poor freeze-up, high waters, heavy snows and slush conditions, make trapline travel more difficult and hazardous. Despite the conditions mentioned, the year's take remained above

# ANNUAL FUR PRODUCTION OF ONTARIO AND AVERAGE PRICE PAID FOR RAW PELTS

Compiled from information from the Dominion Bureau of Statistics, Provincial Sealing Reports, Annual Summary of Trappers' Fur Returns, District and Ontario Trappers' Association Fur Sale Summaries.

Season	Beaver	Fisher	Fox A	Fox C	Lynx	Marten	Mink	Muskkrat	Otter	Raccoon	Skunk	Weasel										
1919-20	104183	25.67	4868	83.95	10649	20.37	1176	25.72	7786	32.60	37240	13.44	505296	3.21	4589	28.55	19369	6.37	61938	3.67	63129	1.10
20-21	83812	15.78	2739	59.31	9565	9.50	630	22.70	7199	19.23	44597	7.40	462136	1.48	4699	23.33	12615	2.64	47332	1.73	59568	.45
21-22	11165	16.74	3231	69.82	10828	10.32	805	21.40	8692	18.76	89679	8.50	616890	1.75	4079	26.22	25335	3.62	90863	2.34	120664	.51
22-23	77478	14.64	2884	73.17	1477	37.24	1828	12.55	1136	19.45	5965	18.91	60623	8.35	515386	1.90	4440	22.91	16147	3.84	68862	.57
23-24	54346	15.44	1949	67.70	355	38.45	18643	12.56	2154	21.92	4491	21.30	89143	9.34	338899	1.66	5148	34.51	25413	3.78	65464	.77
24-25	48364	19.33	1936	42.26	974	36.12	22198	14.04	3884	21.18	3177	17.46	65307	12.88	387022	1.95	4304	21.68	22157	5.29	67100	1.59
25-26	27597	19.56	2618	33.54	226	35.78	30874	14.00	3568	21.93	3261	17.93	469947	2.10	514376	1.77	4510	28.05	79453	1.90	79425	1.18
26-27	20738	22.31	3904	47.36	977	46.30	26263	17.44	4568	36.13	3493	27.25	32100	15.31	514376	1.77	4510	28.05	79453	1.90	79425	1.18
27-28	22040	23.65	5401	48.20	590	44.91	26039	23.96	3845	43.54	3493	27.25	32100	15.31	514376	1.77	4510	28.05	79453	1.90	79425	1.18
28-29	17348	21.65	2481	55.82	116	42.46	11076	21.16	871	48.92	34271	6.12	723325	1.91	3330	12.63	12640	3.94	82917	.78	113421	.42
29-30	17493	21.55	2510	52.82	116	42.46	11076	21.16	871	48.92	34271	6.12	723325	1.91	3330	12.63	12640	3.94	82917	.78	113421	.42
30-31	15304	12.62	1544	40.41	620	24.44	8441	11.80	799	30.73	1191	13.75	48234	7.67	640390	.64	3330	12.63	12640	3.94	82917	.78
31-32	13230	10.42	1258	44.43	562	19.86	9564	7.65	1088	21.18	1264	15.00	52795	9.00	3330	12.63	12640	3.94	82917	.78	113421	.42
32-33	10799	11.00	1203	50.00	82	26.00	8198	10.00	1400	26.00	1102	11.35	68293	7.83	522493	1.00	3330	12.63	12640	3.94	82917	.78
33-34	10336	8.18	1399	55.70	89	19.71	13995	7.18	2138	17.58	1102	11.35	68293	7.83	522493	1.00	3330	12.63	12640	3.94	82917	.78
34-35	8496	7.52	1495	40.10	181	16.94	26883	5.89	2611	19.20	1040	9.50	67523	7.08	444728	1.10	3159	15.97	13862	3.08	49309	.58
35-36	1781	9.27	2123	47.60	775	17.69	38545	5.59	2608	31.05	1281	14.22	54825	10.06	359294	1.61	3441	15.38	13293	3.59	51172	.78
36-37	239	13.41	2052	44.53	23	21.30	35308	6.43	1925	32.80	49813	14.61	361083	1.67	4300	17.91	14354	4.79	94451	.92	82873	.65
37-38	390	11.17	1418	28.93	46	15.39	23502	5.10	1014	27.34	1709	16.58	48169	8.44	471203	.97	3611	13.90	11599	3.23	52846	.68
38-39	16934	14.30	1353	34.06	135	11.32	22618	4.62	664	30.43	1893	18.55	62754	7.81	687711	.92	3979	13.76	10936	2.30	95476	.90
39-40	18124	17.35	1372	37.19	38	13.16	12627	4.33	481	35.61	1738	21.28	98155	7.68	737098	1.55	4019	12.05	13385	2.64	72793	1.05
40-41	21293	22.88	853	40.54	108	16.09	16142	5.02	429	38.00	1527	24.74	103285	8.12	731700	2.00	3697	14.70	13819	3.71	71287	1.51
41-42	25199	21.05	834	32.50	97	23.68	32038	7.42	546	36.54	1671	28.61	127595	8.43	617503	2.00	3909	14.70	13819	3.71	71287	1.51
42-43	24169	32.00	659	45.00	189	25.50	28393	10.50	542	43.00	1376	30.79	147979	9.50	688927	3.15	3425	18.00	14723	4.50	48143	1.80
43-44	32808	37.89	1097	58.83	32	30.75	59892	13.51	687	50.19	1656	36.79	50071	17.91	638568	2.50	4411	23.33	21866	5.26	83042	2.35
44-45	48041	35.90	1213	61.95	32	27.85	39930	7.00	986	41.00	1795	38.39	42716	22.06	660505	2.94	4544	21.82	15786	3.20	38389	1.50
45-46	42196	50.78	1626	59.33	67	23.06	45688	1.40	768	40.78	2651	44.72	42738	35.42	660505	2.94	4544	21.82	15786	3.20	38389	1.50
46-47	47267	27.75	1795	34.83	144	16.94	24964	3.00	766	22.00	1944	23.73	36707	24.31	812744	2.57	5202	36.00	24117	3.25	62824	1.33
47-48	57953	33.40	968	37.50	111	17.00	16459	2.14	616	23.67	1113	23.55	27831	18.84	862490	3.00	4944	28.60	17166	2.50	10083	.73
48-49	63374	21.40	1435	25.13	55	8.80	16841	1.35	542	12.70	442	14.25	38062	22.30	742761	2.00	5362	18.95	12693	1.50	12533	.69
49-50	73759	19.95	589	34.37	66	7.83	9206	.78	479	7.62	118	18.30	43178	28.77	562587	2.04	4801	21.27	10989	1.30	4794	.56
50-51	81760	26.63	198	34.57	240	13.57	13191	1.15	462	11.61	1217	20.00	37653	27.45	565388	2.04	4801	21.27	10989	1.30	4794	.56
51-52	105769	14.15	2250	21.90	81	8.60	10027	.70	215	4.40	1472	13.20	35172	20.95	741814	1.55	6268	19.90	22405	1.80	9311	.75
52-53	125950	13.15	2559	19.75	170	11.00	11814	.70	1479	4.90	2359	10.20	36100	18.70	838392	1.45	7845	21.40	26667	1.95	7571	1.20
53-54	105361	9.65	2550	15.35	685	12.00	5424	.57	1769	2.85	2889	6.50	36133	15.95	780090	1.02	7334	20.65	30990	1.35	3340	.70
54-55	135390	14.75	3281	21.25	635	13.40	4930	.70	1400	7.05	3968	8.90	33639	21.05	841135	1.38	5753	25.75	28406	1.78	3241	.91
55-56	112047	12.25	3127	22.25	163	14.50	2619	.50	906	4.60	3131	7.40	31605	18.70	500111	1.09	6765	22.60	13135	2.20	819	.65
56-57	113036	11.10	2368	17.40	160	15.00	3574	.50	665	5.80	4512	5.25	35776	13.30	564511	.95	6561	26.05	28413	1.60	1633	.72
57-58	140371	10.50	3173	16.30	128	14.55	2031	.82	1103	6.75	49484	10.50	446578	.75	8519	22.50	9596	1.30	2019	.82	16410	.56
58-59	120566	10.40	3355	15.95	302	14.35	1858	1.45	2242	13.40	4559	4.95	44926	11.40	337986	.84	6698	22.70	4200	1.35	572	.87
59-60	110615	13.30	3125	19.20	85	20.00	1188	2.77	4038	15.10	6361	4.75	47445	13.25	320287	.81	6040	25.90	10520	2.01	389	.70
60-61	132375	10.70	3748	8.00	98	20.00	1655	2.10	4502	7.70	9326	3.45	304731	.54	7422	23.70	7433	1.70	216	.45	12631	.45
61-62	137609	10.48	2728	13.57	130	15.00	2960	3.32	4578	9.02	47215	8.98	377888	.98	7456	24.40	9943	3.00	264	.50	11143	.49
62-63	167408	12.67	2830	10.27	61	15.00	1647	5.02	4243	13.28	7748	6.61	43048	12.21	345428	1.60	8326	2.82	9190	3.39	112	.72
63-64	182933	13.03	3774	12.61	35	15.00	2025	5.14	3217	14.65	13783	5.63	39353	10.73	497091	1.50	9165	29.73	8981	2.01	54	.50
64-65	161229	10.60	2581	7.04	46	15.00	2343	6.24	1690	16.99	10664	6.46	32825	10.64	251795	1.52	8457	32.73	8820	2.61	86	.50



average and was greater than the objective of management of a sustained yearly catch of 150,000 beaver. From field observations and district reports there are no indications of any decrease in the beaver population. With an increase in price and a better season, 1965-66 production figures could surpass those of the 1963-64 season. Fisher pelts taken increased slightly in number, but sold for an all time low of \$7.04 average and with very little demand. Coloured fox figures increased slightly over last year with a fair demand, and a slight increase in price. A sharp drop of almost 50% shows in the lynx production figures for 1964-65 with a 12.1% increase in average price received. Ontario, even in peak years produces few lynx in comparison with the westerly provinces. The 1964-65 figure on marten of 10,664 pelts taken is 22.7% lower than last year, but is the second highest catch recorded in 46 years. An increase of 5.1% in price helped to offset the loss in numbers taken. Some concern is felt for the low mink production. The figure of 32,825 for this year is the second lowest recorded. Some 31,605 mink pelts were taken during the 1955-56 season. A decrease of 16.6% in production and 9.3% in price affected the trappers' livelihood by approximately \$115,000.00 for the 1964-65 period over the previous season. Otter, down by 8.0% from last year still shows a better than average take over previous years. The \$3.00 increase in average pelt price should offset the slight loss in number. Raccoon and small furs, skunk, squirrel and weasel showed a small variation from the previous season. Raccoon fell slightly in number, but average pelt price increased by 60 cents. Then in reverse, squirrel and weasel increased in number, but dropped a few cents in price.

From the year 1920 to 1958, Ontario's muskrat production averaged 660,000 pelts per year. From 1958 to now, a period of seven years, the average has been below 350,000, or an annual deficit of 310,000. This figure multiplied by this year's average price indicates a loss of approximately half a million dollars to the trappers' income. The biggest losses were sustained in the southwestern and south-eastern regions. Areas that normally took 150,000 to 200,000 have only taken 25,000 for the past season. Low water levels plus a late spring brought about this year's new low. Through heavier fall trapping, the take could be increased, but in the above mentioned circumstances, there seems to be no practical solution. One or two of the larger marshes have dikes and pumping stations and are able to cope with the water level situation. In time to come this may be necessary on the larger muskrat areas if any crop is to be expected.

The Fur Sale Service at North Bay sponsored by the Ontario Trappers' Association held five sales last year. Sales were held in December, January, March, April and June. There was a 13.8% decrease in volume of pelts shipped. Dollar volume dropped by 24.0%. In comparison with the Ontario provincial production figure for the year, there was a slight increase over the previous season in pelts shipped. Though the number of trappers in the Province dropped from 9,437 to 8,937, shipments of fur to the sale increased slightly. It can only be concluded that the Fur Sale Service by the Ontario Trappers' Association does establish a price for Ontario wild fur and that it continues to increase in trapper participation.

# WILD FUR SEALED DURING THE 1964-65 SEASON BY FUR MANAGEMENT DISTRICTS OF ONTARIO

	Beaver	Fisher	Lynx	Marten	Mink	Otter
Chapleau .....	1,541	55	30	737	286	132
Cochrane .....	2,810	96	138	1,081	493	117
Fort Frances .....	10,156	200	46	25	1,219	297
Geraldton .....	9,262	24	84	2,091	866	474
Gogama .....	1,855	62	56	959	413	169
Kapuskasing .....	7,935	35	137	2,602	935	322
Kemptville .....	5,017	—	—	—	614	40
Kenora .....	10,257	180	29	4	1,822	367
Lake Erie .....	2	—	—	—	718	—
Lake Huron .....	51	1	—	—	1,522	—
Lake Simcoe .....	2,077	6	—	—	1,602	24
Lindsay .....	7,236	248	8	57	1,311	148
North Bay .....	6,037	239	104	12	1,504	250
Parry Sound .....	12,973	136	5	143	2,761	485
Pembroke .....	5,277	243	4	239	805	164
Port Arthur .....	9,534	106	148	733	690	318
Sault Ste. Marie .....	3,471	61	46	505	864	228
Sioux Lookout .....	2,927	71	31	200	504	164
Sudbury .....	8,181	150	119	7	1,878	473
Swastika .....	3,529	181	187	48	729	132
Tweed .....	13,935	23	12	—	1,201	200
White River .....	3,379	14	33	520	527	223
Patricia Central .....	12,691	57	167	142	5,617	2,006
Patricia East .....	8,674	15	110	462	1,131	858
Patricia West .....	12,422	378	196	97	2,813	866
Total .....	161,229	2,581	1,690	10,664	32,825	8,457

## TRENDS IN TOTAL SEALED PELTS AND VALUES

	Total Sealed 1963-64	Total Sealed 1964-65	% Change Volume	Average Value 1963-64	Average Value 1964-65	Value % Change
Beaver	182,933	161,229	—11.8	14.03	10.60	—24.4
Fisher	3,779	2,581	—31.4	13.61	7.04	—48.3
Lynx	3,220	1,690	—47.5	14.80	16.99	+12.1
Marten	13,796	10,664	—22.7	6.13	6.46	+ 5.1
Mink	39,356	32,825	—16.6	11.73	10.64	— 9.3
Otter	9,194	8,457	— 8.0	30.98	32.73	+ 5.3

## VOLUME TREND OF O.T.A. FUR SALES

	Pelts Sold 1963-64	Pelts Sold 1964-65	% Change
Beaver .....	50,291	45,261	— 10.
Fisher .....	1,733	1,132	— 34.
Col. Fox .....	1,233	1,587	+ 22.
Lynx .....	970	736	— 24.
Marten .....	5,157	4,013	— 22.
Mink .....	10,739	10,155	— 5.
Muskrat .....	97,780	77,678	— 20.
Otter .....	2,025	1,994	— 1.
Raccoon .....	5,735	5,198	— 9.
Squirrel .....	1,049	3,605	+291.
Weasel .....	2,700	3,173	+ 15.
Wolf .....	149	165	+ 9.
Wolf .....	113	151	+ 25.
Bear .....	113	151	+ 25.
Castoreum .....	1,493 #	1,214	— 18.
	179,674	154,848	— 13.8

# SUMMARY OF AVERAGE BEAVER PRICES BY SIZES AT JUNE 1 SALE, 1964-65

Section	Size	Number Offered	Not Sold	Sold	Value	Section Average	Overall Average
NIP	XXXL	55	—	55	\$ 1,026.25	\$18.65	
PW		49	—	49	841.00	17.16	
TOTAL	XXXL	104	—	104	1,867.25		\$17.95
NIP	XXL	283	61	222	3,097.25	13.95	
MICH		25	—	25	460.50	18.42	
JB		35	—	35	551.50	15.75	
PW		161	—	161	2,509.00	15.58	
TOTAL	XXL	504	61	443	6,618.25		14.93
NIP	XL	449	13	436	5,339.75	12.24	
MICH		54	—	54	792.00	14.66	
JB		45	—	45	614.50	13.65	
PW		153	—	153	1,625.25	10.62	
TOTAL	XL	701	13	688	8,371.50		12.16
NIP	L	472	—	472	3,912.75	8.28	
MICH		38	—	38	386.00	10.15	
JB		32	—	32	304.50	9.51	
PW		112	—	112	844.75	7.54	
TOTAL	L	654	—	654	5,448.00		8.33
NIP	LM	287	19	268	1,328.75	4.95	
MICH		20	—	20	114.25	5.71	
JB		17	—	17	96.50	5.67	
PW		72	6	66	350.75	5.31	
TOTAL	LM	396	25	371	1,890.25		5.09
NIP	M	369	—	369	1,658.75	4.49	
MICH		74	—	74	302.00	4.08	
JB		35	—	35	151.25	4.32	
PW		55	10	45	174.00	3.86	
TOTAL	M	533	10	523	2,286.00		4.37
NIP	SM	201	109	92	298.00	3.23	
MICH		26	—	26	92.00	3.53	
JB		182	—	182	846.00	4.64	
TOTAL	SM	409	109	300	1,236.00		4.12
NIP	KTS	15	—	15	30.00	2.00	
ALL SECTIONS	XXXL	104	—	104	1,867.25	17.95	
	XXL	504	61	443	6,618.25	14.93	
	XL	701	13	688	8,371.50	12.16	
	L	654	—	654	5,448.00	8.33	
	LM	396	25	371	1,890.25	5.09	
	M	533	10	523	2,286.00	4.37	
	SM	409	109	300	1,236.00	4.12	
	KTS	15	—	15	30.00	2.00	
TOTAL		3,316	218	3,098	27,747.25		8.95

% of No. on Sale	%	Running Total
XXXL	3.2	
XXL	15.3	18.5
XL	21.3	39.8
L	19.9	59.7
LM	12.1	71.8
M	15.3	87.1
SM	12.4	99.5
KTS	.5	100.0

## SECTIONS

NIP	Nipissing
MICH	Michipicoten
JB	James Bay
PW	Patricia West

PROPORTION OF ONTARIO'S FUR PRODUCTION  
MARKETED BY O.T.A. FUR SALES

	1962-63			1963-64			1964-65		
	Province Total Pelts	OTA Fur Sales Pelts Sold	% of Total	Province Total Pelts	OTA Fur Sales Pelts Sold	% of Total	Province Total Pelts	OTA Fur Sales Pelts Sold	% of Total
Beaver.....	167,408	37,973	22.7	182,933	50,291	27.5	161,229	45,261	28.1
Fisher.....	2,830	1,003	35.4	3,774	1,733	45.9	2,581	1,132	43.9
Fox.....	1,647	1,054	64.0	2,025	1,233	60.9	2,343	1,587	67.8
Lynx.....	4,743	931	19.6	3,217	970	30.2	1,690	736	23.0
Marten.....	7,748	1,959	25.3	13,783	5,157	37.4	10,664	4,013	37.6
Mink.....	43,048	7,542	17.5	39,353	10,739	27.3	32,825	10,155	30.9
Muskrat.....	345,428	56,330	16.3	497,091	97,780	19.7	251,795	77,678	30.8
Otter.....	8,326	1,359	16.3	9,165	2,025	22.1	8,457	1,994	23.6
Raccoon.....	9,190	3,863	42.0	8,981	5,735	63.9	8,280	5,198	62.8
Squirrel.....	12,851	1,159	9.0	6,435	1,049	16.3	17,750	3,605	20.3
Weasel.....	10,213	2,074	20.3	7,391	2,700	36.5	11,841	3,173	26.8
Wolves.....	287	87	30.3	577	149	25.8	517	165	31.9
Bear.....	25	25	100.0	113	113	100.0	159	151	95.0
Castoreum.....	868	868	100.0	1,493	1,493	100.0	1,179	1,179	100.0
TOTALS.....	614,724	116,227	18.9	776,385	181,167	23.3	511,310	156,026	30.5



AVERAGE BEAVER PRICES RECEIVED BY SIZE FOR SECTIONS  
ALL SALES — 1964-65 SEASON

Section	Size	Number Offered	Not Sold	Sold	Value	Section Average	Overall Average
NIP	XXXL	1,762	136	1,626	\$ 31,076.50	\$19.11	
MICH		—	—	—	—	—	
JAS. B		109	—	109	2,401.00	22.02	
PAT. W		152	8	144	2,715.50	18.85	
PAT. E		52	—	52	1,032.25	12.85	
Total	XXXL	2,075	144	1,931	37,225.25		\$19.27
NIP	XXL	5,940	380	5,560	99,310.50	17.86	
MICH		120	—	120	2,212.50	18.43	
JAS. B		360	—	360	7,074.25	19.65	
PAT. W		355	9	346	5,768.75	16.67	
PAT. E		110	—	110	1,947.25	17.70	
Total	XXL	6,885	389	6,496	116,313.25		17.90
NIP	XL	8,262	77	8,185	119,902.00	14.64	
MICH		258	—	258	4,266.00	16.53	
JAS. B		464	—	464	7,401.50	15.95	
PAT. W		363	—	363	4,485.50	12.35	
PAT. E		180	—	180	2,517.00	13.98	
Total	XL	9,527	77	9,450	138,572.00		14.66
NIP	L	6,597	60	6,537	67,839.00	10.37	
MICH		210	—	210	2,331.00	11.10	
JAS. B		333	—	333	3,673.50	11.03	
PAT. W		194	—	194	1,630.00	8.40	
PAT. E		153	—	153	1,488.75	9.73	
Total	L	7,487	60	7,427	76,962.25		10.36
NIP	LM	4,076	119	3,957	28,483.50	7.19	
MICH		74	—	74	675.50	8.12	
JAS. B		161	—	161	1,314.75	8.16	
PAT. W		185	6	179	1,074.00	5.99	
PAT. E		85	—	85	589.00	6.93	
Total	LM	4,581	125	4,456	32,137.25		7.21
NIP	M	7,983	63	7,920	40,370.50	5.09	
MICH		189	—	189	941.00	4.97	
JAS. B		364	—	364	1,977.50	5.43	
PAT. W		179	10	169	679.00	4.01	
PAT. E		176	—	176	775.75	4.40	
Total	M	8,891	73	8,818	44,743.75		5.07
NIP	SM	4,512	320	4,192	15,818.75	3.77	
MICH		144	—	144	561.00	3.89	
JAS. B		408	—	408	1,710.50	4.19	
PAT. W		20	—	20	70.00	3.50	
PAT. E		100	—	100	287.75	2.87	
Total	SM	5,184	320	4,864	18,448.00		3.79
NIP	KTS	643	366	277	712.75	2.57	
MICH		—	—	—	—	—	
JAS. B		15	—	15	30.00	2.00	
PAT. W		—	—	—	—	—	—
PAT. E		—	—	—	—	—	—
Total	KTS	658	366	292	742.75		2.54
ALL	XXXL	2,075	144	1,931	37,225.25	19.27	
SECTIONS	XXL	6,885	389	6,496	116,313.25	17.90	
	XL	9,527	77	9,450	138,572.00	14.66	
	L	7,487	60	7,427	76,962.25	10.36	
	LM	4,581	125	4,456	32,137.25	7.21	
	M	8,891	73	8,818	44,743.75	5.07	
	SM	5,184	320	4,864	18,448.00	3.79	
	KTS	658	366	292	742.75	2.54	
Total		45,288	1,554	43,734	465,144.50		10.64

AVERAGE PRICE RECEIVED FOR BEAVER BY SIZE PER SALE  
1964-65 SEASON

Section	Size	Number Offered	Not Sold	Sold	Value	Section Average	Overall Average
DEC	XXXL	519	72	447	\$ 8,446.75	\$18.89	
JAN		732	72	660	11,526.25	17.46	
MAR		429	—	429	8,864.25	20.66	
APR		291	—	291	6,520.75	22.40	
MAY		104	—	104	1,867.25	17.95	
Total	XXXL	2,075	144	1,931	37,225.25		\$19.27
DEC	XXL	1,716	100	1,616	29,101.50	18.00	
JAN		2,206	109	2,097	35,834.00	17.08	
MAR		1,401	108	1,293	23,102.00	17.86	
APR		1,058	11	1,047	22,142.50	21.14	
MAY		504	61	443	6,618.25	14.93	
Total	XXL	6,885	389	6,496	116,313.25		17.98
DEC	XL	2,724	15	2,709	40,999.25	15.13	
JAN		2,908	15	2,893	39,890.50	13.78	
MAR		1,829	23	1,806	25,378.50	14.12	
APR		1,365	11	1,354	23,932.25	17.67	
MAY		701	13	688	8,371.50	12.16	
Total	XL	9,527	77	9,450	138,572.00		14.67
DEC	L	2,259	—	2,259	24,651.75	10.91	
JAN		2,127	27	2,100	22,063.75	10.50	
MAR		1,396	33	1,363	12,881.25	9.45	
APR		1,051	—	1,051	11,917.50	11.33	
MAY		654	—	654	5,448.00	8.33	
Total	L	7,487	60	7,427	76,962.25		10.36
DEC	LM	1,166	31	1,135	7,957.75	7.01	
JAN		1,281	17	1,264	8,658.25	6.84	
MAR		969	14	955	7,481.50	7.83	
APR		769	38	731	6,149.50	8.41	
MAY		396	25	371	1,890.25	5.09	
Total	LM	4,581	125	4,456	32,137.25		7.21
DEC	M	2,625	31	2,594	13,479.50	5.19	
JAN		2,515	—	2,515	11,736.00	4.66	
MAR		1,941	22	1,919	9,703.00	5.05	
APR		1,277	10	1,267	7,539.25	5.95	
MAY		533	10	523	2,286.00	4.37	
Total	M	8,891	73	8,818	44,743.75		5.07
DEC	SM	1,714	39	1,675	6,971.00	4.16	
JAN		1,274	34	1,240	3,928.75	3.16	
MAR		1,037	70	967	3,464.00	3.58	
APR		750	68	682	2,848.25	4.17	
MAY		409	109	300	1,236.00	4.12	
Total	SM	5,184	320	4,864	18,448.00		3.79
DEC	KTS	259	176	83	202.00	2.43	
JAN		164	115	49	192.75	3.93	
MAR		131	65	66	141.50	2.14	
APR		89	10	79	176.50	2.23	
MAY		15	—	15	30.00	2.00	
Total	KTS	658	366	292	742.75		2.54
DEC	TOTAL SALES	12,982	464	12,518	131,809.50	10.52	
JAN		13,207	389	12,818	133,830.25	10.44	
MAR		9,124	335	8,789	91,016.00	10.35	
APR		6,650	148	6,502	81,226.50	12.49	
MAY		3,316	218	3,098	27,747.25	8.95	
Total		45,288	1,554	43,734	465,144.50		10.64

NOTE: DEC — Beaver taken in October, November.  
 JAN — " " " " October, November, early December.  
 MAR — " " " " December, January, early February.  
 APR — " " " " January, February, early March.  
 MAY — " " " " Late March, April, early May.

# RECORD OF CATCH AND VALUE BY DISTRICTS — 1964-65 SEASON

Shipper	Value	Beaver	Fisher	Fox	Lynx	Marten	Mink	Muskra	Otter	Raccoon	Squirrel	Weasel	Wolf	Bear	Castoreum
Chapleau .....	32,277.64	1,541	55	44	30	737	286	1,643	132	—	2	82	—	1	26.00
Cochrane .....	53,333.28	2,810	96	105	138	1,081	493	2,078	117	1	24	613	10	12	32.75
Fort Frances .....	140,553.15	10,156	200	162	46	25	1,219	3,410	287	—	1,238	689	73	5	145.00
Geraldton .....	143,544.71	9,282	24	93	84	2,091	866	2,702	474	—	1,242	1,000	10	3	8.25
Gogama .....	41,172.46	1,855	62	24	56	959	413	2,359	169	—	164	140	3	1	35.00
Kapuskasing .....	131,302.53	7,935	35	154	137	2,602	935	3,899	322	—	80	559	—	6	22.25
Kemptville .....	100,626.05	5,017	—	54	—	—	614	25,172	40	233	110	80	9	3	35.75
Kenora .....	149,618.45	10,257	180	35	29	4	1,822	3,258	367	13	518	422	320	7	38.50
Lake Erie .....	54,381.75	2	—	93	—	—	718	28,113	—	1,231	—	49	17	4	—
Lake Huron .....	71,579.29	51	1	182	—	—	1,522	27,946	—	4,248	103	45	9	2	.50
Lake Simcoe .....	69,200.47	2,077	6	33	—	—	1,602	17,147	24	1,140	70	33	—	—	9.50
Lindsay .....	138,174.42	7,236	248	63	8	57	1,311	24,992	148	645	153	24	16	3	43.50
North Bay .....	102,430.31	6,037	239	136	104	12	1,504	5,694	250	13	171	179	44	15	140.00
Parry Sound .....	213,643.80	12,973	136	227	5	143	2,761	16,273	485	301	1,057	228	83	31	143.75
Pembroke .....	80,464.02	5,277	243	70	4	239	705	4,049	164	65	155	61	23	8	42.50
Port Arthur .....	129,411.49	9,534	106	68	148	733	690	965	318	—	104	258	18	6	96.75
Sault Ste. Marie .....	63,103.37	3,471	61	112	46	505	864	2,664	228	1	359	207	26	2	17.50
Sioux Lookout .....	47,158.07	2,497	71	46	31	200	504	1,425	164	—	833	466	10	4	27.75
Sudbury .....	139,940.09	8,181	150	222	119	7	1,878	7,681	473	30	807	351	69	13	131.50
Swastika .....	56,063.82	3,529	181	39	187	48	729	757	132	—	81	313	3	9	25.50
Tweed .....	215,157.67	13,435	23	127	12	—	1,201	29,809	200	359	384	76	41	7	56.25
White River .....	55,864.85	3,379	14	20	33	520	527	1,816	233	—	3	87	5	—	45.50
Patricia Central .....	283,367.77	12,691	57	89	167	142	5,617	10,964	2,006	—	5,019	1,841	12	—	—
Patricia East .....	154,353.85	8,674	15	58	110	462	1,131	10,695	858	—	20	1,287	—	—	55.00
Patricia West .....	224,515.22	12,422	378	87	196	97	2,813	16,284	866	—	5,053	2,751	16	12	—
8,937	2,889,423.63	161,229	2,581	2,343	1,690	10,664	32,825	251,795	8,457	8,280	17,750	11,841	517	159	1,179.00
	\$1,709,027.46	—	14,020.32	—	68,889.44	382,728.40	—	21,610.80	276,797.61	4,617.99	4,437.50	3,127.85	—	—	—
		\$18,170.24	28,713.10	349,258.00	—	—	—	—	—	—	—	—	—	—	—

# AVERAGE PRICE AND CATCH RECORDS

	1958-59	1959-60	1960-61	1961-62*	1962-63*	1963-64*	1964-65*
<b>Beaver</b>							
Year's Catch .....	120566	110615	132375	137609	167408	182933	161229
Ave. Price Pd. ....	10.40	13.30	10.70	10.48	12.67	13.03	10.60
<b>Fisher</b>							
Year's Catch .....	2365	3125	3348	2728	2830	3774	2581
Ave. Price Pd. ....	15.95	19.20	8.00	13.57	10.27	12.61	7.04
<b>Fox, Coloured</b>							
Year's Catch .....	1858	1188	1655	2960	1647	2025	2343
Ave. Price Pd. ....	1.45	2.77	2.10	3.32	5.02	5.14	6.24
<b>Fox, Arctic</b>							
Year's Catch .....	302	85	98	130	61	35	46
Ave. Price Pd. ....	14.35	20.00	20.00	15.00	15.00	15.00	15.00
<b>Lynx</b>							
Year's Catch .....	2242	4038	4502	4578	4743	3217	1690
Ave. Price Pd. ....	13.40	15.10	7.70	9.02	13.28	14.65	16.99
<b>Marten</b>							
Year's Catch .....	4559	6361	9325	10260	7748	13783	10664
Ave. Price Pd. ....	4.95	4.75	3.45	3.66	6.61	5.63	6.46
<b>Mink</b>							
Year's Catch .....	44926	47445	61520	47215	43048	39353	32825
Ave. Price Pd. ....	11.40	13.25	8.35	8.89	12.21	10.73	10.64
<b>Muskrat</b>							
Year's Catch .....	337986	320287	304731	377888	345428	497091	251795
Ave. Price Pd. ....	.84	.81	.54	.98	1.60	1.50	1.52
<b>Otter</b>							
Year's Catch .....	6698	6040	7422	7456	8326	9165	8457
Ave. Price Pd. ....	22.70	25.90	23.70	24.40	23.82	29.73	32.73
<b>Raccoon</b>							
Year's Catch .....	4200	10580	7433	9543	9190	8981	8280
Ave. Price Pd. ....	1.35	2.01	1.70	3.00	3.39	2.01	2.61
<b>Skunk</b>							
Year's Catch .....	572	389	216	264	112	54	86
Ave. Price Pd. ....	.87	.70	.45	.50	.72	.50	.50
<b>Squirrel</b>							
Year's Catch .....	11330	9255	12496	10099	12851	6435	17750
Ave. Price Pd. ....	.11	.10	.12	.15	.23	.33	.25
<b>Weasel</b>							
Year's Catch .....	11626	12472	12631	11143	10213	7391	11841
Ave. Price Pd. ....	.56	.60	.45	.49	.39	.44	.39

\*Average price used is from O.T.A. North Bay Sales.



# REVENUE RECEIVED FROM EXPORT PERMITS

July 1st, 1964 to June 30th, 1965

	Total amount of pelts	Total amount of revenue
Beaver .....	116,901	\$116,901.00
Fisher .....	1,741	1,741.00
Fox (White) .....	22	16.50
Lynx .....	1,074	161.10
Marten .....	7,561	3,780.50
Mink .....	23,200	23,200.00
Muskrat .....	224,991	11,249.55
Otter .....	6,888	8,610.00
Weasel .....	13,306	665.30
Wolverine .....	—	—
Fox (Cross) .....	99	—
Fox (Red) .....	1,365	—
Fox (Silver, black or blue) .....	12	—
Raccoon .....	8,775	—
Skunk .....	32	—
<b>TOTAL REVENUE .....</b>		<b>\$166,324.95</b>

# REVENUE RECEIVED FROM TANNERS PERMITS

July 1st, 1964 to June 30th, 1965

	Total amount of pelts	Total amount of revenue
Beaver .....	42,623	\$ 42,623.00
Fisher .....	945	945.00
Fox (White) .....	8	6.00
Lynx .....	646	96.90
Marten .....	3,351	1,675.50
Mink .....	10,644	10,644.00
Muskrat .....	117,100	5,855.00
Otter .....	1,881	2,351.25
Weasel .....	2,845	142.25
Wolverine .....	1	.40
Fox (Cross) .....	22	—
Fox (Red) .....	1,660	—
Fox (Silver, black or blue) .....	9	—
Raccoon .....	10,164	—
Skunk .....	—	—
<b>TOTAL REVENUE .....</b>		<b>\$ 64,339.30</b>

# WILD PELTS EXPORTED AND TANNED SHOWING NUMBER AND VALUE OF PELTS AND ROYALTY

Received from July 1st, 1964 to June 30th, 1965

	Pelts Exported	Pelts Tanned	Total Pelts	Value of Pelts
Beaver .....	116,901	42,623	159,524	\$1,659,049.60
Fisher .....	1,741	945	2,686	18,802.00
Fox (White) .....	22	8	30	357.00
Lynx .....	1,074	646	1,720	27,176.00
Marten .....	7,561	3,351	10,912	67,108.80
Mink .....	23,200	10,644	33,844	331,671.20
Muskrat .....	224,991	117,100	342,091	437,876.48
Otter .....	6,888	1,881	8,769	266,577.60
Weasel .....	13,306	2,845	16,151	9,690.60
Wolverine .....	—	1	1	16.00
Fox (Cross) .....	99	22	121	689.70
Fox (Red) .....	1,365	1,660	3,025	16,032.50
Fox (Silver, black or blue) .....	12	9	21	220.50
Raccoon .....	8,775	10,164	18,939	42,612.75
Skunk .....	32	—	32	16.00
	<b>405,967</b>	<b>191,899</b>	<b>597,866</b>	<b>\$2,877,896.73</b>

Revenue received from Export Permits .....	\$ 166,324.95
Revenue received from Tanners Permits .....	\$ 64,339.30
<b>TOTAL REVENUE .....</b>	<b>\$ 230,664.25</b>

RANCH RAISED PELTS EXPORTED OR TANNED SHOWING  
NUMBER AND VALUE OF PELTS FROM  
July 1st, 1964 to June 30th, 1965

	Pelts Exported	Pelts Tanned	Total Pelts	Value of Pelts
Fox (Silver, black or blue).....	322,448	70,783	393,231	\$ 5,898,465.00
Mink .....	322,448	70,783	393,231	\$ 5,898,465.00



# OPEN SEASONS

## MOOSE

### SCHEDULE 11 — Residents and Non-Residents

September 15, 1964 to January 3, 1965.

Beginning at the intersection of the boundary between Ontario and Quebec with the southerly shore of James Bay; thence southerly along that boundary to its intersection with the centre line of the right of way of the most northerly east-west line of the Canadian National Railways; thence westerly along that centre line to its intersection with a meridian line through the northeast corner of the geographic Township of Bell in the Territorial District of Thunder Bay; thence northerly along the said meridian line to its intersection with the Albany River; thence in a general northerly and westerly direction following that river to the Wabassi River flowing into the Albany River; thence in a northwesterly direction following the Wabassi River to its intersection with the 11th Base Line; thence westerly along the 11th Base Line to its intersection with the Inter-provincial Boundary between Ontario and Manitoba; thence northerly and northeasterly along that boundary to the shore of Hudson Bay; thence easterly, southerly, southeasterly and easterly along the shores of that bay and James Bay to the place of beginning.

### SCHEDULE 12 — Residents and Non-Residents

October 1, 1964 to January 3, 1965.

Beginning at a point in the Ottawa River being at the intersection of the boundary between Ontario and Quebec with the easterly production of the southerly boundary of the geographic Township of Burnaby in the Territorial District of Nipissing; thence westerly along the said easterly production and the southerly boundary of the said geographic Township of Burnaby to the northeasterly corner of the geographic Township of Angus; thence southerly along the easterly boundary of the geographic Township of Angus to the southeasterly corner thereof; thence westerly along the southerly boundaries of the geographic townships of Angus, Flett, Milne, Olive, Torrington and Vogt to the southwest corner of the last-mentioned geographic township; thence westerly along the southerly boundary of the geographic Township of Clement a distance of 3 miles; thence north astronomically across the geographic townships of Clement and Scholes to the intersection with the northerly boundary of the last-mentioned geographic township; thence westerly along the northerly boundary of the geographic Township of Scholes to the northwesterly corner thereof; thence westerly along the northerly boundaries of the geographic townships of Afton and Sheppard in the Territorial District of Sudbury to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of the geographic Township of Sheppard to the southwest corner thereof; thence westerly along the northerly boundary of the geographic Township of Mackelcan to the northwesterly corner thereof; thence southerly along the westerly boundary of the geographic Township of Mackelcan to the southwest corner thereof; thence westerly along the northerly boundaries of the geographic townships of Rathbun, Norman, Wisner, Howell, Foy, Harty, Hess, Moncrieff and Craig to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of the geographic Township of Craig to the southwest corner thereof; thence westerly along the



northerly boundary of geographic Township Tp. 114 to the northwesterly corner thereof; thence westerly along the northerly boundaries of geographic townships A, E, I, M, Q, U, Tp. 1A, Tp. 1B, Tp. 1C, Tp. 1D, Tp. 1E and Tp. 1F in the Territorial District of Algoma to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of geographic Township Tp. 1F to the intersection with the northerly boundary of geographic Township Tp. 195; thence westerly along the northerly boundaries of geographic townships Tp. 195 and Tp. 201 to the northwesterly corner of the last-mentioned geographic township; thence northerly along the easterly boundary of the geographic Township of Curtis and the easterly boundaries of geographic townships Tp. 22, Range 10, Tp. 22, Range 11 and Tp. 22, Range 12 to the northeasterly corner of the last-mentioned geographic township; thence westerly along the northerly boundaries of geographic townships Tp. 22, Range 12 and Tp. 23, Range 12 to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of geographic Township Tp. 23, Range 12 to the northeasterly corner of geographic Township Tp. 24, Range 12; thence westerly along the northerly boundaries of geographic townships Tp. 24, Range 12, Tp. 25, Range 12, Tp. 26, Range 12 and Tp. 27, Range 12 to the northwesterly corner of the last-mentioned geographic township; thence northerly along the easterly boundary of the geographic Township of Palmer to the northeasterly corner thereof; thence westerly along the northerly boundary of that geographic township to the northwesterly corner thereof; thence southerly along the westerly boundaries of the geographic townships of Palmer and Fisher to the southwest corner of the last-mentioned geographic township; thence southerly along the southerly production of the westerly boundary of the geographic Township of Fisher to the intersection with the International Boundary between Canada and the United States of America; thence in a general northwesterly, southwesterly and westerly direction following that international boundary to a point in Saganaga Lake where that international boundary is intersected by the easterly boundary of the Territorial District of Rainy River; thence northerly along that easterly boundary to the northeasterly corner of that territorial district; thence westerly along the northerly boundary of that territorial district to the intersection with the 7th Meridian; thence northerly along the 7th Meridian in the Territorial District of Kenora to the intersection with the southerly boundary of the geographic Township of MacNicol; thence easterly along the southerly boundaries of the geographic townships of MacNicol, Tustin, and Bridges to the southwesterly corner of the geographic Township of Docker; thence in a northerly direction along the westerly boundaries of the geographic townships of Docker and Smellie to the northwesterly corner of the last-mentioned geographic township; thence northerly along the northerly production of the westerly boundary of the geographic Township of Smellie to the intersection with the centre line of the right of way of the most northerly east-west line of the Canadian National Railways; thence westerly along that centre line to the intersection with the boundary between Ontario and Manitoba; thence northerly along that boundary to the intersection with the 11th Base Line; thence easterly along the 11th Base Line to the Wabassi River flowing into the Albany River; thence in a general southerly and easterly direction following that river to the Albany River; thence in a general southeasterly direction along the Albany River to the intersection with the meridian line drawn north astronomically from the northeasterly corner of the geographic Township of Bell in the Territorial District of Thunder Bay; thence south astronomically along that meridian line to the intersection with the centre line of the right of way of the most northerly east-west line of the Canadian National Railways; thence in a general south-



easterly direction along that centre line to its intersection with the boundary between Ontario and Quebec; thence southerly along that boundary to the place of beginning.

### SCHEDULE 13 — Residents and Non-Residents

November 2 to November 30, 1964.

Beginning at a point in the Ottawa River being at the intersection of the boundary between Ontario and Quebec with the easterly production of the southerly boundary of geographic township of Burnaby in the Territorial District of Nipissing; thence westerly along the said easterly production and the southerly boundary of the said geographic Township of Burnaby to the northeasterly corner of the geographic Township of Angus; thence southerly along the easterly boundary of the geographic Township of Angus to the southeasterly corner thereof; thence westerly along the southerly boundaries of the geographic townships of Angus, Flett, Milne, Olive, Torrington and Vogt to the southwesterly corner of the last-mentioned geographic township; thence westerly along the southerly boundary of the geographic Township of Clement a distance of 3 miles; thence north astronomically across the geographic townships of Clement and Scholes to the intersection with the northerly boundary of the last-mentioned geographic township; thence westerly along the northerly boundary of the geographic Township of Scholes to the northwesterly corner thereof; thence westerly along the northerly boundaries of the geographic townships of Afton and Sheppard in the Territorial District of Sudbury to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of the geographic Township of Sheppard to the southwesterly corner thereof; thence westerly along the northerly boundary of the geographic Township of Mackelcan to the northwesterly corner thereof; thence southerly along the westerly boundary of the geographic Township of Mackelcan to the south westerly corner thereof; thence westerly along the northerly boundaries of the geographic townships of Rathbun, Norman, Wisner, Howell, Foy, Harty, Hess Moncrieff and Craig to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of the geographic Township of Craig to the southwesterly corner thereof; thence westerly along the northerly boundary of the geographic Township Tp. 114 to the northwesterly corner thereof; thence westerly along the northerly boundaries of geographic townships A, E, I, M, Q, U, Tp. 1A, Tp. 1B, Tp. 1C, Tp. 1D, Tp. 1E and Tp. 1F in the Territorial District of Algoma to the north-westerly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of geographic Township Tp. 1F to the intersection with the northerly boundary of geographic Township Tp. 195; thence westerly along the northerly boundaries of geographic townships Tp. 195 and Tp. 201 to the northwesterly corner of the last-mentioned geographic township; thence northerly along the easterly boundary of the geographic Townships of Curtis and the easterly boundaries of geographic townships Tp. 22, Range 10, Tp. 22, Range 11, and Tp. 22, Range 12 to the northeasterly corner of the last-mentioned geographic township; thence westerly along the northerly boundaries of geographic townships Tp. 22, Range 12, and Tp. 23, Range 12 to the northwesterly corner of the last-mentioned geographic township; thence southerly along the westerly boundary of geographic Township Tp. 23, Range 12 to the northeasterly corner of geographic Township Tp. 24, Range 12; thence westerly along the northerly boundaries of geographic townships Tp. 24, Range 12, Tp. 25, Range 12, Tp. 26, Range 12 and Tp. 27, Range 12 to the northwesterly corner of the last-mentioned geographic township; thence northerly along the easterly boundary of the geographic Township of Palmer to the northeasterly corner

thereof; thence westerly along the northerly boundary of that geographic township to the northwesterly corner thereof; thence southerly along the westerly boundaries of the geographic townships of Palmer and Fisher to the southwesterly corner of the last-mentioned geographic township; thence southerly along the southerly production of the westerly boundary of the geographic Township of Fisher to the intersection with the International Boundary between Canada and the United States of America; thence in a general southeasterly direction, along the last-mentioned boundary through Lake Superior and the St. Mary River to a point in that boundary due south of the intersection of the boundary between the geographic townships of Parke and Awenge in the Territorial District of Algoma with the northerly shore of the St. Mary River; thence due north to that northerly shore; thence in a general easterly direction following the northerly shores of the St. Mary River, the expansions thereof and the North Channel of Georgian Bay of Lake Huron to the southwesterly corner of the geographic Township of Spragge in the said Territorial District of Algoma; thence northerly along the westerly boundary of that geographic township to the intersection with the centre line of that part of the King's Highway known as No. 17; thence northeasterly, southeasterly and easterly following that centre line to the intersection with the centre line of the Canadian Pacific Railway in the Town of Mattawa; thence northerly along that centre line to the intersection with the boundary between Ontario and Quebec; thence northerly along that boundary to the place of beginning.

#### SCHEDULE 5 — Residents only

November 16 to November 21, 1964.

The geographic townships of Hilton, Jocelyn and St. Joseph in the Territorial District of Algoma.

#### SCHEDULE 14 — Residents only

October 1, 1964, to January 3, 1965.

Beginning at a point in Saganaga Lake where the International Boundary between Canada and the United States of America is intersected by the easterly boundary of the Territorial District of Rainy River; thence northerly along that easterly boundary to the northeasterly corner of the said Territorial District of Rainy River; thence westerly along the northerly boundary of that territorial district to the intersection with the 7th Meridian; thence northerly along the 7th Meridian in the Territorial District of Kenora to the intersection with the southerly boundary of the geographic Township of MacNicol; thence easterly along the southerly boundaries of the geographic townships of MacNicol, Tustin and Bridges to the southwesterly corner of the geographic Township of Docker; thence in a northerly direction along the westerly boundaries of the geographic townships of Docker and Smellie to the northwesterly corner of the last-mentioned geographic township; thence northerly along the northerly production of the westerly boundary of the geographic Township of Smellie to the intersection with the centre line of the right of way of the most northerly east-west line of the Canadian National Railways; thence westerly along that centre line to the intersection with the boundary between Ontario and Manitoba; thence southerly along that boundary to the intersection with the International Boundary between Canada and the United States of America; thence southeasterly along that international boundary to the intersection with the boundary between the territorial districts of Kenora and Rainy River; thence easterly along the northerly boundary of the Territorial District of



Rainy River 15 miles, more or less, to the intersection with the easterly shore of the Lake of the Woods; thence northeasterly along that easterly shore to the intersection with the northerly limit of Concession II in the geographic Township of Morson in the Territorial District of Rainy River; thence easterly along that northerly limit to the intersection with the easterly boundary of the geographic Township of Morson; thence southerly along that easterly boundary to the south-easterly corner of that geographic township; thence easterly along the northerly boundaries of the geographic townships of Dewart, Rowe and Menary to the northeasterly corner of the last-mentioned geographic township; thence southerly along the easterly boundary of the geographic Township of Menary to the south-easterly corner thereof; thence easterly along the northerly boundaries of the geographic townships of Potts and Fleming to the intersection with the centre line of the waters of Burditt Lake; thence in a southeasterly direction along that centre line to and along the centre line of the channel of the Manomin River to the intersection with the westerly limit of Indian Reserve No. 17B; thence northerly along that westerly limit to the northwesterly corner of that Indian reserve; thence easterly along the northerly limit of that Indian reserve to the northeasterly corner thereof; thence southerly along the easterly limit of that Indian reserve to the intersection with the centre line of the waters of Manomin Lake; thence in a northeasterly and easterly direction following that centre line to and along the centre line of the body of water connecting Manomin Lake and Lake Despair to the centre line of the last-mentioned lake; thence in a northeasterly and northerly direction following the centre line of the waters of Lake Despair to the intersection with the westerly production of the centre of the channel of a stream between Lake Despair and Footprint Lake; thence in a northeasterly direction following that westerly production and the centre line of that stream and its easterly production to the intersection with the centre line of the waters of Footprint Lake; thence in a general south-easterly direction following the centre line of the last-mentioned waters to the intersection with the northerly limit of Indian Reserve No. 17A; thence easterly along that northerly limit to the northeasterly corner of said Indian Reserve No. 17A; thence southerly along the easterly limit of that Indian reserve to the high-water mark of Northwest Bay of Rainy Lake; thence southeasterly in a straight line to the intersection with the centre line of the channel of Camp Narrows; thence in a southeasterly direction following the last-mentioned centre line to the intersection of the centre line of the waters lying adjacent to and northerly of Shelter Bay, Browns Inlet and the most northeasterly point of the geographic Township of Griesinger; thence in a southeasterly and northeasterly direction following the centre line of the last-mentioned waters to the mid point of the waters lying between Hangingstone Point on the most northeasterly point of the geographic Township of Griesinger and the small island lying northeasterly thereof and patented as locations G 113 and G 114; thence southeasterly in a straight line to the most southwesterly projection of Tug Point on Cheery Island in Rainy Lake; thence south astronomically to the intersection with the International Boundary between Canada and the United States of America; thence easterly, southerly and southeasterly following that international boundary through Rainy Lake and the several lakes, rivers and portages to the place of beginning.

#### SCHEDULE 15 — Residents Only

November 2 to November 14, 1964.

1. Part of the Territorial District of Nipissing, described as follows:

(a) Beginning at the intersection of the northerly limit of the right of way of

that part of the King's Highway known as No. 17 with the southerly boundary of the geographic Township of Widdifield; thence easterly along the said highway limit to the intersection with the centre line of the Canadian Pacific Railway in the Town of Mattawa; thence northerly along the said centre line to the water's edge along the westerly bank of the Ottawa River; thence northerly along the said water's edge to the confluence with the centre line of the Mattawa River; thence westerly along the centre line of the Mattawa River and the connecting lakes, namely Lake Talon, Tilliard Lake, Bigfish Lake, White-throat Lake, Moosegrass Lake, Werwolf Lake, Turtle Lake, Trout Lake and the connecting water courses to the intersection with the easterly production of the southerly boundary of the geographic Township of Widdifield with the centre line of Trout Lake; then southwestwardly along the said production and southerly boundary of the geographic Township of Widdifield to the place of beginning.

(b) Beginning at the intersection of the southerly boundary of the geographic Township of Widdifield with the southerly limit of the right of way of that part of the King's Highway known as No. 17; thence southwestwardly along the said southerly boundary of the geographic Township of Widdifield to the water's edge of Lake Nipissing; thence southerly along the said water's edge to the southerly boundary of the Territorial District of Nipissing; thence westerly along that boundary to the southwest corner of the geographic Township of Falconer; thence northerly along the west boundary of the Territorial District of Nipissing to the intersection with the southerly limit of the right of way of that part of the King's Highway known as No. 17; thence southeasterly along the said highway limit to the place of beginning.

2. That part of the Territorial District of Sudbury lying south of that part of the King's Highway known as No. 17.

3. That part of the Territorial District of Algoma lying south and southeast of that part of the King's Highway known as No. 17 between the west boundary of the geographic Township of Spragge and the easterly boundary of the said territorial district.

4. The Territorial District of Manitoulin, Saving and Excepting therefrom the Island of Manitoulin.

## DEER

### SCHEDULE 1 — Residents and Non-Residents

September 21 to September 30, 1964. (Bows and Arrows only).

October 1, 1964 to January 3, 1965.

Beginning at the southeasterly corner of the Territorial District of Kenora; thence northerly along the easterly boundary of that territorial district to the intersection with the middle of the main channel of Lake St. Joseph; thence northerly along the northerly production of the easterly boundary of the Territorial District of Kenora to the intersection with the 11th Base Line; thence westerly along the 11th Base Line to the intersection with the boundary between Ontario and Manitoba; thence southerly along that boundary to the intersection with the southerly boundary of the Territorial District of Kenora; thence easterly along that southerly boundary to the place of beginning.



## SCHEDULE 2 — Residents and Non-Residents

October 1 to December 15, 1964.

That part of Ontario, except the parts described in schedules 1 and 3, lying north of a line described as follows:

Beginning at a point in the northerly shore of Lake Timiskaming, being at the easterly boundary of the geographic Township of Harris; thence in a westerly, southerly, northerly and westerly direction along that northerly shore to the intersection with the southerly boundary of the geographic Township of Dymond; thence westerly along the southerly boundaries of the geographic townships of Dymond, Hudson, Lundy, Auld, Speight, Banks and Wallis to the southwesterly corner of the last-mentioned geographic township; thence southerly along the easterly boundary of the geographic townships of Brewster and Gamble to the southeasterly corner of the last-mentioned geographic township; thence westerly along the southerly boundary of the geographic Township of Gamble to the southwesterly corner thereof; thence southerly along the easterly boundary of the geographic Township of Ellis in the Territorial District of Sudbury to the southeasterly corner thereof; thence westerly along the southerly boundaries of the geographic townships of Ellis, McLeod, Stull, Unwin, Hodgetts, Beulah, Blewett, Brebeuf, Paudash, Chalet, Tp. 9, Margaret, Elizabeth, Abeny, Hubbard, Tp. 8Z, Tp. 8A, Tp. 8B, Tp. 8C, Tp. 8D, Tp. 8E, Tp. 8F, Tp. 8G, Tp. 8H, Tp. 22, Range 15 and Tp. 23, Range 15 to the southwesterly corner of the last-mentioned geographic township; thence southerly along the easterly boundary of geographic Township Tp. 24, Range 15 in the Territorial District of Algoma to the southeasterly corner thereof; thence westerly along the southerly boundaries of the geographic townships Tp. 24, Range 15, Tp. 25, Range 15, Tp. 26, Range 15, Home, Tp. 28, Range 15, Tp. 29, Range 15, to the southwesterly corner of the last-mentioned township; thence west astronomically to the International Boundary between Canada and the United States of America; thence in a general northwesterly direction along that international boundary to the intersection with the boundary between Ontario and Manitoba.

## SCHEDULE 3 — Residents and Non-Residents

October 31 to December 5, 1964.

Beginning at the intersection of the International Boundary between Canada and the United States of America with the boundary between the territorial districts of Kenora and Rainy River; thence easterly along the northerly boundary of the Territorial District of Rainy River 15 miles, more or less, to the intersection with the easterly shore of the Lake of the Woods; thence northeasterly along that easterly shore to the intersection with the northerly limit of Concession II in the geographic Township of Morson in the Territorial District of Rainy River; thence easterly along that northerly limit to the intersection with the easterly boundary of the geographic Township of Morson; thence southerly along that easterly boundary to the southeasterly corner of that geographic township; thence easterly along the northerly boundaries of the geographic townships of Dewart, Rowe and Menary to the northeasterly corner of the last-mentioned geographic township; thence southerly along the easterly boundary of the geographic Township of Menary to the southeasterly corner thereof; thence easterly along the northerly boundaries of the geographic townships of Potts and Fleming to the intersection with the centre line of the waters of Burditt Lake; thence in a southeasterly direction along that centre line to and along the centre line of the channel of the Manomin River to the intersection with the westerly limit of Indian Reserve No. 17B; thence northerly along that westerly limit to the northwesterly corner of that Indian reserve; thence easterly along the

northerly limit of that Indian reserve to the northeasterly corner thereof; thence southerly along the easterly limit of that Indian reserve to the intersection with the centre line of the waters of Manomin Lake; thence in a northeasterly and easterly direction following that centre line to and along the centre line of the body of water connecting Manomin Lake and Lake Despair to the centre line of the last-mentioned lake; thence in a northeasterly and northerly direction following the centre line of the waters of Lake Despair to the intersection with the westerly production of the centre of the channel of a stream between Lake Despair and Footprint Lake; thence in a northeasterly direction following that westerly production and the centre line of that stream and its easterly production to the intersection with the centre line of the waters of Footprint Lake; thence in a general southeasterly direction following the centre line of the last-mentioned waters to the intersection with the northerly limit of Indian Reserve No. 17A; thence easterly along that northerly limit to the northeasterly corner of that Indian reserve; thence southerly along the easterly limit of that Indian reserve to the highwater mark of Northwest Bay of Rainy Lake; thence southeasterly in a straight line to the intersection with the centre line of the channel of Camp Narrows; thence in a southeasterly direction following the last-mentioned centre line to the intersection of the centre line of the waters lying adjacent to and northerly of Shelter Bay, Browns Inlet and the most northeasterly point of the geographic Township of Griesinger; thence in a southeasterly and northeasterly direction following the centre line of the last-mentioned waters to the mid point of the waters lying between Hanginstone Point on the most northeasterly point of the geographic Township of Griesinger and the small island lying northeasterly thereof and patented as locations G 113 and G 114; thence southeasterly in a straight line to the most southwesterly projection of Tug Point on Cheery Island in Rainy Lake; thence south astronomically to the intersection with the International Boundary between Canada and the United States of America; thence in a southwesterly and northwesterly direction along that international boundary to the place of beginning.

#### SCHEDULE 4 — Residents and Non-Residents

November 2 to November 14, 1964.

1. The parts of the territorial districts of Algoma, Sudbury and Timiskaming lying southerly of the line described in Schedule 2 except the geographic townships of Hilton, Jocelyn and St. Joseph in the Territorial District of Algoma.

2. The Territorial District of Parry Sound.

3. The Territorial District of Muskoka except those parts of the geographic townships of Medora and Wood lying east of the centre line of the right of way of the Canadian National Railways and north of the line between concessions XV and XVI in the geographic Township of Wood.

4. The Territorial District of Nipissing.

5. The Territorial District of Manitoulin.

6. The Provisional County of Haliburton.

7. The County of Renfrew.

8. The townships of Rama and Mara in the County of Ontario.

9. The Township of Somerville and those parts of the townships of Dalton and Laxton, Digby and Longford lying north of the Monk Road in the County of Victoria.

10. Those parts of the counties of Frontenac, Hastings, Lennox and Addington and Peterborough lying north of that part of the King's Highway known as No. 7.

11. That part of the County of Lanark lying northerly and easterly of a line described as follows:

Beginning at the intersection of the westerly boundary of the county and the centre line of that part of the King's Highway known as Number 7; thence easterly along that centre line to the intersection with the centre line of that part of the King's Highway known as Number 43; thence easterly along that centre line to the intersection with the centre line of that part of the King's Highway known as Number 29; thence southerly along that centre line to the southerly boundary of the county; thence easterly to the easterly boundary of the county.

#### SCHEDULE 5 — Residents and Non-Residents

November 2 to November 14, 1964 (no dogs)

The geographic townships of Hilton, Jocelyn and St. Joseph in the Territorial District of Algoma.

#### SCHEDULE 6 — Residents and Non-Residents

November 2 to November 7, 1964 (no dogs)

1. The townships of Albermarle, Amabel, Eastnor, Lindsay and St. Edmunds in the County of Bruce.

2. That part of the County of Carleton lying west of the Rideau River.

3. Those parts of the counties of Frontenac, Hastings and Lennox and Addington lying between that part of the King's Highway known as No. 7 and that part of the King's Highway known as No. 2.

4. The County of Grenville. (shotguns only)

5. That part of the County of Peterborough lying south of that part of the King's Highway known as No. 7.

6. That part of the County of Lanark lying southerly and westerly of the line described in paragraph 11 of Schedule 4.

7. That part of the County of Leeds lying westerly and northerly of a line described as follows:

Beginning at the intersection of the production southerly of the centre line of that part of the King's Highway known as No. 32 and the International Boundary between Canada and the United States of America; thence northerly along that production and that centre line to the intersection with the centre line of that part of the King's Highway known as No. 15; thence northerly along that centre line to the intersection with the centre line of that part of the King's Highway known as No. 42; thence westerly along that centre line to the intersection with the production southerly of the centre line of the County Road known as Narrow Locks Road; thence northerly along that production and that centre line to the easterly boundary of the county.



SCHEDULE 7 — Residents and Non-Residents. (Shotguns only).

November 2 to November 5, 1964

1. That part of the County of Carleton lying east of the Rideau River.
2. The United Counties of Prescott and Russell.
3. The United Counties of Stormont, Dundas and Glengarry. (no dogs)
4. The County of Leeds except that part described in paragraph 7 of Schedule 6.

SCHEDULE 8 — Residents and Non-Residents

October 19 to October 31, 1964. (bows and arrows only)

1. The islands in the Territorial District of Manitoulin excepting therefrom those islands known as Cockburn and Philip Edward. (no dogs)
2. The township of St. Edmunds in the County of Bruce. (no dogs)
3. In the Township of Oxford in the County of Grenville and described as follows:

Beginning at the southwesterly angle of Lot 27 in Concession I; thence northerly along the westerly limit of that lot to the intersection with the production westerly limit of that lot to the intersection with the production westerly of the southerly limit of the travelled road along the southerly limit of a golf course occupying the northerly part of Lot 27 in Concession I; thence easterly along that production and the southerly limit of that travelled road to the easterly limit of said Lot 27; thence northerly along the easterly limit of that lot to the northerly limit of a plan registered in the Registry Office for the County of Grenville as No. 16 for the Township of Oxford; thence easterly along the northerly limit of that plan to the line between the east and west halves of Lot 28 in Concession I; thence northerly along that line to a point therein distant 166 feet measured southerly thereon from the high-water mark on the southerly shore of the Rideau River and Rideau Canal; thence easterly and perpendicular to the line between the east and west halves of Lot 28 a distance of 450 feet; thence northerly parallel to the line between the east and west halves of Lot 28 to the high-water mark on the southerly shore of the Rideau River and Rideau Canal; thence in a general easterly direction following that high-water mark to a point therein distant 300 feet measured easterly and perpendicular to the westerly limit of Lot 29 in Concession I; thence southerly and parallel to the westerly limit of Lot 29 a distance of 120 feet; thence easterly and perpendicular to the westerly limit of Lot 29 a distance of 120 feet; thence northerly and parallel to the westerly limit of Lot 29 a distance of 120 feet, more or less, to the high-water mark along the southerly shore of the Rideau River and Rideau Canal; thence in a general easterly direction to the intersection with a line drawn parallel to the line between the east and west halves of Lot 29 in Concession I; thence southerly along that parallel line to a point distant 150 feet measured westerly and perpendicular to the line between the east and west halves of Lot 29 from a point therein distant 150 feet measured southerly thereon from the high-water mark on the southerly shore of the Rideau River and Rideau Canal; thence easterly and perpendicular to the line between the east and west halves of Lot 29 a distance of 250 feet; thence northerly parallel to the line between the east and west halves of Lot 29 to the intersection with the high-water mark on the southerly shore of the Rideau River



and Rideau Canal; thence in a general easterly direction following that high-water mark to the confluence with the high-water mark on the westerly shore of Kemptville Creek; thence in a general southerly direction following that high-water mark to the intersection with the northwesterly limit of the southeasterly 100 acres of Lot 30 in Concession I; thence westerly along that limit to a point in the easterly limit of Lot 29 in Concession I; thence southerly along that limit to the intersection with the high-water mark on the westerly shore of Kemptville Creek; thence in a general southerly direction following that high-water mark to the intersection with the southerly limit of Lot 28 in Concession II; thence westerly along the southerly limit of lots 28 and 27 to the southeasterly angle of Lot 26 in Concession II; thence northerly along the easterly limit of that lot 540 feet; thence westerly in a straight line to a point in the easterly limit of that part of the King's Highway known as No. 16 and which said point is distant 499 feet measured northerly along that limit from the southerly limit of Lot 26; thence northerly along the easterly limit of that highway to the line between concessions I and II; thence westerly along the line between concessions I and II to the place of beginning.

#### SCHEDULE 9 — Residents and Non-Residents

November 2 to December 31, 1964.

That part of the Township of Keppel in the County of Grey known as Griffiths Island.

#### SCHEDULE 10 — Residents and Non-Residents

October 12 to November 11, 1964.

The island in Lake Ontario east of the Township of South Marysburgh in the County of Prince Edward known as Main Duck Island.

#### SCHEDULE 16 — Residents only

November 2 to November 4, 1964.

1. That part of the Township of Matchedash in the County of Simcoe, composed of,

- (a) lots 20 to 23, both inclusive, in Concession II;
- (b) lots 19 to 27, both inclusive, in Concession III;
- (c) lots 15 to 27, both inclusive, in Concession IV;
- (d) lots 17 to 27, both inclusive, in Concession V;
- (e) lots 15 to 26, both inclusive, in Concession VI;
- (f) lots 9 to 21, both inclusive, in Concession VII;
- (g) lots 3 to 18, both inclusive, in Concession VIII;
- (h) lots 1 to 16, both inclusive, in Concession IX;
- (i) lots 1 to 11, both inclusive, in Concession X;
- (j) lots 1 to 10, both inclusive, in Concession XI;
- (k) lots 1 to 8, both inclusive, in Concession XII; and

(l) lots 1 to 4, both inclusive, in Concession XIII.

2. The United Counties of Northumberland and Durham, except the Township of Hope. (No dogs). (Shotguns only).

3. The County of Bruce, except the townships of Albermarle, Amabel, Eastnor, Lindsay and St. Edmunds, and the County of Grey. (No dogs).

4. The County of Essex.

5. The counties of Haldimand, Kent and Welland. (No dogs). (Shotguns only).

6. The townships of Amaranth and Melancthon in the County of Dufferin. (No dogs). (Shotguns only).

7. The townships of Adjala, Essa, Flos, Innisfil, Orillia, Sunnidale, Tay, Tecumseth, Tosorontio, Vespra and West Gwillimbury in the County of Simcoe. (No dogs). (Shotguns only).

8. The Township of Scott in the County of Ontario. (No dogs). (Shotguns only).

9. The townships of East Gwillimbury, Georgina and North Gwillimbury in County of York. (No dogs). (Shotguns only).

November 2 to November 3, 1964. (Shotguns only).

## CARIBOU

No open season.

## BLACK BEAR

September 1, 1964 to June 30, 1965 — Throughout Ontario.

## HUNGARIAN PARTRIDGE

October 3 to November 28, 1964 — In the counties of Brant, Bruce, Dufferin, Elgin, Essex, Grey, Haldimand, Halton, Huron, Kent, Lambton, Lincoln, Middlesex, Norfolk, Oxford, Perth, Waterloo, Welland, Wellington and Wentworth.

September 26 to November 28, 1964 — In any other part of Ontario. Bag limit — 8 per day. Possession limit — 16.

## PHEASANTS

8.00 a.m. to 5.00 p.m.

1. October 21 to November 7, 1964, in the counties of Brant, Dufferin, Elgin, Haldimand, Halton, Middlesex, Norfolk, Oxford, Peel, Perth, Waterloo, Wellington and York, and in the townships of Hay, Stephen and Usborne in the County of Huron, and in the townships of Pickering, Reach, Scott, Uxbridge, East Whitby and Whitby in the County of Ontario, and in the townships of Adjala, Essa, Innisfil, Tecumseth, Tosorontio and West Gwillimbury in the County of Simcoe, and in the townships of Beverly, East Flamborough and West Flamborough in the County of Wentworth.

2. October 28 to November 4, 1964, in the County of Essex, except in the Township of Pelee.

3. October 28 to November 14, 1964, in the counties of Kent and Lambton.
4. October 3 to October 24, 1964, in the townships of Clarke and Darlington in the County of Durham.

5. October 28 to November 11, 1964, in the counties of Lincoln and Welland, and in the townships of Ancaster, Barton, Binbrook, Glanford and Saltfleet in the County of Wentworth.

6. October 22, 23, 29 and 30, 1964, in the Township of Pelee in the County of Essex.

7. October 3 to November 30, 1964, in any part of Ontario except in the areas described in clauses 1, 2, 3, 4, 5 and 6.

Bag Limit in clauses 1, 2 and 3 — 3 per day, not more than one of which shall be a hen.

Bag Limit in clauses 4 and 5 — 3 per day.

Bag Limit in clause 6 — October 22 and 23 — not more than 8 cocks and 2 hens.

October 29 and 30 — not more than 7 cocks and 3 hens.

Bag Limit in clause 7 — 3 per day.

# RUFFED GROUSE, SPRUCE GROUSE, SHARP-TAILED GROUSE AND PTARMIGAN

1. Ruffed Grouse and Spruce Grouse — September 15 to December 15.  
Sharptailed Grouse and Ptarmigan — September 15, 1964 to March 31, 1965.

In the territorial districts of Cochrane and Timiskaming and that part of the Territorial District of Kenora lying north of the 11th Base Line.

2. September 15 to December 15, 1964 — All species.

In all that part of the Province of Ontario lying north of the Town of Mattawa, in the geographic Township of Papineau, in the Territorial District of Nipissing, and a line which is described as follows:

Beginning at the intersection of the northerly limit of the right of way of that part of the King's Highways known as No. 17 with the westerly limit of the said Town of Mattawa; thence westerly along the said northerly limit of the right of way of that part of the King's Highway known as No. 17 to the community known as Spragge in the geographic Township of Spragge, in the Territorial District of Algoma; thence southwesterly in a straight line to the intersection with the angle of the International Boundary between Canada and the United States of America lying northwesterly of Cockburn Island, in the Territorial District of Manitoulin, in the North Channel of Lake Huron; thence in a general northwesterly and westerly direction following the said International Boundary to the intersection with the Interprovincial Boundary between Ontario and Manitoba; save and excepting therefrom the territorial districts of Cochrane and Timiskaming and that part of the Territorial District of Kenora lying north of the 11th Base Line.

3. October 3 to December 15, 1964 — All species.

In the counties of Brant, Bruce, Dufferin, Elgin, Essex, Grey, Haldimand, Halton,

Huron, Kent, Lambton, Lincoln, Middlesex, Norfolk, Oxford, Perth, Waterloo, Welland, Wellington and Wentworth, and in the townships of Clarke and Darlington in the County of Durham.

4. September 26 to December 15, 1964 — All species.

In the remainder of Ontario, except the territorial districts of Cochrane and Timiskaming and except the area described in clauses 2 and 3.

Bag Limits: Ruffed Grouse and Spruce Grouse —

5 per day in the aggregate. Possession 15 in the aggregate.

Sharptailed Grouse —

5 per day. Possession 15.

Ptarmigan —

5 per day. Possession 15.

## BOBWHITE QUAIL

October 28 to October 30, 1964.

In the Township of Raleigh in the County of Kent and in the Township of Plympton in the County of Lambton.

Bag and Possession limit—5 quail.

## RABBIT (COTTONTAIL, VARYING HARE, EUROPEAN HARE).

1. October 3, 1964 to February 28, 1965.

In the townships of Clarke and Darlington in the County of Durham.

2. October 21, 1964 to February 28, 1965.

In the counties of Brant, Dufferin, Elgin, Haldimand, Halton, Middlesex, Norfolk, Oxford, Peel, Perth, Waterloo, Wellington and York; the townships of East Whitby, Pickering, Reach, Scott, Uxbridge and Whitby in the County of Ontario; the townships of Adjala, Essa, Innisfil, Tecumseth, Tosorontia and West Gwillingbury in the County of Simcoe; the townships of Hay, Stephen and Osborne in the County of Huron; and the townships of Beverly, East Flamborough and West Flamborough in the County of Wentworth.

3. October 28, 1964 to February 28, 1965.

In the County of Essex, except the Township of Pelee, and the counties of Lincoln and Welland; the counties of Kent and Lambton; and the townships of Ancaster, Barton, Binbrook, Glanford and Saltfleet in the County of Wentworth.

4. December 24, 1964 to February 28, 1965.

In the Township of Pelee in the County of Essex.

5. September 9, 1964 to March 31, 1965.

In the counties of Bruce, Carleton, Dundas, Durham, except in the townships of Clarke and Darlington in the County of Durham, Frontenac, Glengarry, Grenville, Grey, Hastings, Huron, except in the townships of Hay, Stephen and Osborne in the County of Huron, Lanark, Leeds, Lennox and Addington, Northumberland, Peterborough, Prescott, Prince Edward, Russell, Stormont and Victoria; the townships of Flos, Matchedash, Medonte, Nottawasaga, Orillia, Oro, Sunnidale, Tay, Tiny and Vespra in the County of Simcoe; and the townships of Brock, Mara, Thorah and Rama in the County of Ontario.

6. September 1, 1964 to August 31, 1965.

In any part of Ontario, except the areas described in clauses 1, 2, 3, 4 and 5.

Bag limit on cottontail rabbits only—6 per day.



## SQUIRREL (BLACK, GREY, FOX)

1. October 28 to December 15, 1964.

In the County of Essex.

2. October 3 to December 15, 1964.

In the counties of Brant, Bruce, Dufferin, Elgin, Grey, Haldimand, Halton, Huron, Kent, Lambton, Lincoln, Middlesex, Norfolk, Oxford, Perth, Waterloo, Welland, Wellington and Wentworth.

3. September 26 to December 15, 1964.

In any part of Ontario, except the areas described in clauses 1 and 2.

Bag and Possession limit—10 squirrels in the aggregate.

## RACCOON AND FOX

October 1, 1964 to September 30, 1965. Throughout Ontario.

## MIGRATORY BIRDS

DUCKS, RAILS, COOTS, GALLINULES,  
WILSON'S SNIPE, GEESE, WOODCOCK

September 15 to December 15, 1964, all species—In the Northern District.

September 26 to December 15, 1964, all species—In the Central District.

October 3 to December 15, 1964, all species—11.00 a.m. EST for all species except Woodcock—In the Southern District.

October 3 to December 15, 1964, all species except Geese—11.00 a.m. EST for Ducks, Rails, Coots, Gallinules and Wilson's Snipe—In Essex County.

October 3 to December 31, 1964—11.00 a.m. EST—Geese—In Essex County.

The Northern District of Ontario comprises the Territorial Districts of Kenora, Patricia, Rainy River, Thunder Bay, Cochrane and Timiskaming and those portions of Algoma, Sudbury and Nipissing lying northerly of Highway 17 between Mattawa and Spragge, a line from Highway 17 in Spragge to the angle in the International Boundary north of Cockburn Island and the westerly continuation of the International Boundary.

The Southern District of Ontario comprises the counties of Brant, Bruce, Dufferin, Elgin, Grey, Haldimand, Halton, Huron, Kent, Lambton, Lincoln, Middlesex, Norfolk, Oxford, Perth, Waterloo, Welland, Wellington and Wentworth.

The Central District of Ontario comprises all that part of the Province which is not included in Essex County or in the Northern and Southern Districts.

Bag and Possession Limits:

Ducks (in the aggregate): 5 per day, not more than two of which may be a canvas-back or redhead, or four of which may be wood ducks. Possession limit is twice the daily bag limit. On and after October 23, two additional scaup or goldeneye may be taken per day and four additional may be in possession. Mergansers are not counted in the daily bag or possession limit.

Geese (in the aggregate):

5 per day, 10 in possession.

Wilson's Snipe:

8 per day, 16 in possession.

Woodcock:

8 per day, 16 in possession.

Persons resident more than 25 miles from James Bay may not kill more than 15 geese within 25 miles of James Bay during the 1964 season.

Migratory game birds may be hunted with shotguns not larger than 10 gauge, or with a bow and arrow. Rifles must not be used.

## FUR FARMING

The Canadian mink pelt market opened in December with a mixed pattern of demand. Top quality dark mink were off slightly compared to last year, however, good and ordinary quality declined 25%. Pastel male mink were off from 10% to 15%, but pastel females showed a slight advance of about 5%. Most other mutations showed an advance of about 10% over last year. There were good clearances at most sales and while there was some resistance in dark mink of ordinary quality, there was a strong demand for the lighter shades. Violet, Hope, Pearl, Sapphire, Blu-Iris and Silverblu attracted spirited demand from European buyers. Female pelts in all mutations advanced 10% in February and March. By the end of February, 85% of the 1964 Canadian crop of ranch mink was sold.

Fur auction sales in New York and in the Scandinavian fur centres experienced early clearances of huge quantities. It was estimated that by the end of May most of the world production was sold. This is indeed a remarkable accomplishment when one considers that world production is approaching 19 million mink pelts. The buoyant economy of the European countries especially West Germany and Italy was the prime factor in stimulating the demand from European buyers.

As in the past, the trimming trade purchased large quantities of the unlabelled pelts and in so doing helped to stabilize the prices of the better quality pelts. It is estimated that about 35% of the Canadian crop was absorbed by the trimming trade.

In May the Province was visited briefly by officials of the French Fur Trade among whom were the Presidents of the French Fur Designers Association of Paris, and the Manufacturers, Furriers and Fur Dealers Association, and their wives. A tour of two large mink ranches in southwestern Ontario was conducted by the Department which proved to be a unique feature of their tour which took the group of twenty-six officials through eastern Canada and the United States.

This group, which was on fact-finding and goodwill trip, contained some of the most influential people in the French Fur Trade. From the letters of appreciation that have been received by the Department, Canada Mink Breeders and the Ontario Fur Breeders Association, it is believed that they returned to France with a most favourable impression of Ontario and our fur resources, both wild and ranch raised.

The Ontario Fur Breeders Association, in addition to the regular monthly meetings of the Directors, held a Spring Short Course, a Field Day and a Live Mink Show as educational programs for the members. Three delegates represented the Association at the Annual Meeting of Canada Mink Breeders.

About the middle of May, reports were received from mink ranchers in the Windsor-Wheatley-Blenheim area, that great numbers of mink kits were dying one or two days after birth. Specimens of both females and kits were taken to the Ontario Veterinary College for examination and tests.

It soon became apparent that similar losses were being suffered by nearly all the ranches in the above area. Pertinent information was gathered from all ranches with a view to determining the cause. This information covered the number of

females kept, the percentage of females bred, the number of litters born, the number of litters lost, the number of kits surviving and the ranch average. In addition, the feed ration which was used during the period December 1st to May 1st was obtained.

**Production**—Normal production is considered to be 3.5 to 4 kits per female. However, 8 of the 15 ranches affected had a production of from 0 to less than 1. Four had a production of from 1 to 1.5 and the remaining three ranches had from 2 to 2.8. Also, the number of litters born was very much below normal, many being reabsorbed by the female. Of the ones that were born, many would be found dead in the nest within 24 to 36 hours of birth. The females generally appeared in good health with an abundant supply of milk. Kits would die shortly after receiving milk from the mother.

**Ration**—The only common factor in ration of the 15 affected ranches was the feeding of perch racks obtained from three suppliers on Lake Erie. From the information gathered it would appear that in cases where more than 15% of perch was used, the losses increased in proportion to the increase of perch in the ration.

Bacteriological and pathological tests were inconclusive and DDT detection tests were negative. The above tests were made at the Ontario Veterinary College.

During the year, seven cases of distemper, 12 cases of plasmacytosis and three cases of virus enteritis was diagnosed at the Ontario Veterinary College from specimens of mink supplied by Ontario ranchers. While distemper and virus enteritis can be prevented or controlled by the use of commercially produced vaccines, the only method of preventing plasmacytosis is to kill the mink that show positive when subjected to the iodine agglutination test.

A total of 499 Fur Farmers' Licenses were issued in 1964. Of these, 459 were renewals of previous licences, 39 were for newly established ranches and 1 licence was issued with retroactive provisions to legalize the operation of an unlicensed ranch during the previous year.

The following table shows the location by County or District of Licenced Fur Farms in 1964:

County or District	Number	County or District	Number
Algoma	1	Manitoulin	5
Brant	11	Muskoka	2
Bruce	23	Middlesex	23
Cochrane	1	Nipissing	6
Dufferin	6	Norfolk	12
Durham	10	Northumberland	1
Elgin	3	Ontario	20
Essex	12	Oxford	17
Frontenac	3	Parry Sound	5
Grenville	4	Peel	9
Grey	21	Perth	38
Haldimand	10	Peterborough	1
Haliburton	2	Rainy River	1
Halton	25	Simcoe	30
Hastings	1	Sudbury	3
Huron	10	Thunder Bay	9
Kenora	2	Victoria	4
Kent	13	Waterloo	21
Lambton	3	Welland	18
Lanark	3	Wellington	40
Leeds	3	Wentworth	19
Lincoln	23	York	25
Lincoln	23		
TOTAL			499

# SUMMARY OF BREEDING STOCK

Licensed Fur Farms January 1st

	1960	1961	1962	1963	1964
<b>Other Animals</b>					
Beaver (Pens) .....	1	1	0	2	0
Beaver (S.C.) .....	0	0	0	0	0
Fisher .....	2	1	1	4	4
Lynx .....	0	0	0	0	0
Marten .....	96	97	78	33	33
Muskrat (Pens) .....	0	0	0	10	52
Muskrat (S.C.) .....	0	0	0	0	0
Otter .....	0	0	0	0	0
Raccoon .....	22	20	13	8	2
Skunk .....	3	3	4	2	1
<b>Fox</b>					
Blue Fox .....	94	97	57	48	46
Silver Fox* .....	292	212	130	123	106
Platinum and Pearl .....					
Platinum Fox .....	280	367	355	270	256
Other Fox** .....	14	9	1	1	7
<b>Mink</b> .....	142,600	154,626	164,901	178,814	188,005

\* Includes—Standard and White Marked Fox

\*\* Includes—Cross, Red and White Fox

## COLOUR TYPE OF PELTS TAKEN FROM MINK DURING 1964

DARK AND HALF BLOOD DARK MINK, including Blufrost and Demi Buff	90,246
GREY TYPE such as Silverblu, or Patlinum, Sage, Opaline, B.O.S., Stewarts and Homos .....	14,425
DARK BLUE TYPE such as Aleutian, Blue Iris, Steelblu, B.O.S., Stewarts and Homos .....	13,851
LIGHT BLUE TYPE such as Sapphire, Winterblu, Eric, Violet, B.O.S., Stewarts and Homos .....	51,803
BROWN TYPE such as Pastel, Topaze, Ambergold, Buff, Dawn, Orchid, Capucine, B.O.S., Stewarts and Homos .....	185,246
BEIGE TYPE such as Palomino, Pearl, Lavender, Hope, Fawn, B.O.S., Stewarts and Homos .....	44,746
WHITE TYPE, including 95% White .....	6,768
<b>TOTAL PELTS</b> .....	407,085



## FIELD SERVICES

The year under review was one in which the law enforcement training program continued to develop. There are still some officers on our staff who can recall earlier days when they were handed the "book" of the game and fish laws and told to go out and enforce them. As a result of much higher standards of education and enlightenment concerning civil rights, law enforcement is becoming more exacting. More people challenge the authority of our conservation officers and the old time standards are not good enough.

The primary responsibility of a law enforcement officer is to prevent violations by persuading sportsmen to observe the regulations which are made in their own best interests. Enforcement then encompasses the stimulating task, on the one hand, of explaining wildlife management and associated laws to those who are interested, and on the other hand, the most unpleasant task of prosecuting violators.

To insure the highest standards of law enforcement, and particularly where judicial procedures are concerned, it was considered most desirable to have a fish and wildlife representative of each of the twenty-two forest districts attend a four-week course at the Ontario Police College. Those in attendance included supervisors and assistant-supervisors and the group included both biologists and senior conservation officers. The subject matter of the lectures included legal procedure, evidence, arrest and those statutes covering judicial procedure such as The Canada Evidence Act, The Ontario Evidence Act, appropriate portions of the Criminal Code and The Summary Convictions Act (Ontario), with which law enforcement officers should be quite familiar. Lectures on fish and wildlife regulations helped to illustrate the principles enunciated by the Ontario Police College staff.

Meanwhile, the field training program in law enforcement for field conservation officers was developed and a total of 114 officers received instructions from the Department Law Enforcement Training Officer, in a series of nine courses. This integrated training program is directed towards insuring a high standard of law enforcement practice, so that the publicly owned natural resources will be fully protected and utilized under the laws made for their management. It will help to insure also that no person will be improperly charged or prosecuted for alleged infractions of the laws. Courses for field officers were held at convenient points throughout the Province, namely Achray, Nym Lake Chief Ranger Headquarters and the Ontario Forest Ranger School at Dorset.

The conservation officer staff which includes supervisors at District headquarters, fisheries management officers, wildlife management officers and those whose duties are almost entirely in the field, numbered 251 establishments during the year, although some 10 vacancies existed.

The law enforcement program continued its general standard of efficiency with some 2,236 convictions. The trend over a ten year period is as follows:

1955-56 .....	2,895	convictions
1956-57 .....	2,704	"
1957-58 .....	2,993	"
1958-59 .....	2,525	"
1959-60 .....	2,228	"
1960-61 .....	2,160	"
1961-62 .....	2,049	"
1962-63 .....	2,045	"
1963-64 .....	2,276	"
1964-65 .....	2,236	"

Development of the law enforcement programme is also illustrated by the following comparison:

	1960-61	1961-62	1962-63	1963-64	1964-65
Number of Seizures .....	2,424	2,050	2,186	2,508	2,216
Number of Convictions .....	2,160	2,049	2,045	2,276	2,236
Cases Dismissed .....	126	56	66	68	95
Convictions reported by R.C.M.P. re Migratory Bird Regulations .....	47	30	34	18	19
Seizures, from persons unknown .....	139	37	38	81	84

A revision of the record-keeping procedure with respect to some items formerly listed as seizures, but now deleted, accounts for the decline from 2,508 in 1963-64 to 2,216 in the current year.

About one-quarter of the prosecutions were for hunting, fishing or trapping without a licence. A total of 603 individuals sought to exploit the wildlife resources without first paying their reasonable and fair share.

#### Comparison of Licence Offences During a Five-Year Period.

	1960-61		1961-62		1962-63		1963-64		1964-65	
	No.	% Fre- quency	No.	% Fre- quency	No.	% Fre- quency	No.	% Fre- quency	No.	% Fre- quency
Fishing .....	183	8.5	69	3.4	81	4.0	146	6.4	145	6.6
Hunting .....	482	22.3	311	15.4	358	17.4	382	16.8	439	19.6
Trapping .....	16	0.7	5	0.2	10	0.5	24	1.5	19	0.9
Total .....	681	31.5	385	19.0	449	21.9	552	24.7	603	27.1

Offences which occurred against the fishery regulations, other than those involving licences included:

1. Possessing an overlimit of fish .....	111
2. Angling with more than one line .....	101
3. Taking fish during closed season .....	97
4. Taking fish by means other than angling .....	87
5. Possessing a fish spear within 50 feet of the water's edge, during pro- hibited hours .....	52
6. Possessing fish during a closed season .....	25
7. Taking fish by means of set lines .....	13
8. Leave fishing huts on ice after March 31st .....	10
9. Possessing nets without a licence .....	8
10. Violate conditions of commercial fishing licence .....	8

Hunting and trapping offences which occurred most frequently were:

1. Possession of a loaded firearm (a) in a vehicle .....	295
(b) in a power boat .....	98
2. Hunting during prohibited hours .....	190
3. Night hunting (attempting to jacklight deer or moose). .....	77
4. Hunting during closed season .....	68
5. Hunting with a shotgun, not plugged so as to be incapable of holding more than 3 shells .....	33
6. Careless hunting .....	26
7. Permitting dogs to run at large .....	21
8. Hunting protected birds .....	15
9. Shoot from or across travelled portion of highway .....	13
10. Possess migratory birds in closed season .....	6

The efforts of conservation officers are augmented by the assistance of more than 200 biologists, foresters, chief and deputy-chief forest rangers and other

Department employees who hold appointments as special conservation officers. Approximately 1,100 deputy conservation officers also assisted. Officers of the Ontario Provincial Police force are active in enforcement of The Game and Fish Act. Although members of the Royal Canadian Mounted Police force are concerned more particularly with infractions of The Migratory Birds Convention Act and Regulations, they are qualified to enforce the provisions of The Game and Fish Act, 1961-62 and work co-operatively with our conservation officer staff.

Equipment used in violations of The Game and Fish Act, the Ontario Fishery Regulations, or the Migratory Bird Regulations is seized for evidence by the conservation officer at the time the accused is apprehended. Upon conviction, however, such equipment is forfeited to the Crown. The Minister may grant relief from forfeiture upon such terms as he deems just and a substantial majority of such items are restored to their former owners. This, of course, does not apply to items the possession of which might be illegal. Gill, seine, or trap nets are in this category if the owner does not have a licence authorizing such possession.

Those articles which are not claimed by their owners are sold at public auction. A total of \$10,488.71 was realized from the sales which were held, as follows:

### Fishing Tackle Sales

District	Date	Revenue	
Hespeler	April 18, 1964	\$799.75	
Cochrane	April 18, 1964	734.50	
Kenora	May 6, 1964	736.50	\$ 2,270.75

### Firearms Sales

District	Date	Revenue	
Fort Frances	September 5, 1964	\$2,348.21	
Maple	September 12, "	3,133.50	
North Bay (Seizures)	September 2, "	1,510.00	
North Bay (O.P.P.)		1,338.50	
Tweed	September 19, "	2,158.50	\$10,488.71
Net Revenue from gun sales			
(i.e. less O.P.P. items)			9,150.21
Total Revenue from sale of seized articles			11,420.96

As noted, a number of firearms were offered on the North Bay sale which had been seized by the Ontario Provincial Police and these brought \$1,338.50. The net proceeds from items seized for game and fish offences amounted to \$11,420.96.

### Hunter Safety Training

The aim of the safe gun handling programme is to reduce the number of accidents caused by firearms used while hunting. A secondary purpose is to assist young hunters to an understanding of better game management practices.

Since September, 1960, it has been compulsory for all new hunters to successfully complete a course in order to purchase their first hunting licence. About half of the students receive instruction through conservation clubs across the Province, while others do so through cadet corps and other organizations. The Department has 3,200 certified instructors giving freely of their time and equipment to



this worthwhile youth training programme. During the past year, some 18,650 completed the course, making a total of 85,034 new hunters in the field who have obtained the fundamentals of safe gun handling since the inception of this project. The following table shows the progress that has been made since 1957:

## Students Graduated

		Total To Date
1957	281	281
1958	1,668	1,949
1959	2,780	4,729
1960	10,917	15,646
1961	15,267	30,913
1962	15,082	45,995
1963	20,387	66,382
1964	18,652	85,034

A great number and variety of organizations have participated in these courses and the table below outlines the percentage of new hunters that each have graduated.

## Game and Fish Clubs

		Miscellaneous
1960	71%	29%
1961	63%	37%
1962	59%	41%
1963	47%	53%
1964	48%	52%

The rapid increase in the number of students processed by miscellaneous groups may be explained by the fact that this program was incorporated into the curriculum of the High School Cadets and the Cadet Corps of the Canadian Militia. Other organizations participating included service clubs, Boy Scouts, church groups, community centres and many individual instructors in remote areas.

Data on hunting accidents is gathered through co-operation with the Ontario Provincial Police, as well as by our own conservation officers and our newspaper clipping service. The Ontario Provincial Police participation commenced in September, 1959. Prior to this our records are incomplete.

Year	Total	Fatal	Non-Fatal
1960	154	36	118
1961	126	22	104
1962	126	17	109
1963	118	15	103
1964	117	14	103

It is noted that an encouraging improvement has been made and great credit must be given to the instructors for their devotion to their work.

An alarming number of accidents are associated with disregard for the game laws. In reviewing the accident reports it is noted that 35% of the shooters involved in hunting accidents were contravening one or another of the laws and regulations.



# FISHERIES SECTION

## Game Fish and Hatcheries

It is readily apparent that climatic conditions influence angling success and total harvest quite frequently. Adverse weather can certainly reduce the number of participants and restrict their outdoor activity, but the effect on individual angling success can be either good or bad. The year 1964 had its fair share of unusual weather and the tourist trade and angler activity was adversely affected during these periods. A large harvest of walleye is usually realized on opening week end in southern Ontario, but winds of gale proportions on May 9, 1964, routed anglers from their favourite haunts and spoiled an otherwise good week end. The month of August was unseasonably cool and many vacationers forsook the recreational areas and spent the remainder of their vacation at home or in travelling. The inclement weather at this time certainly reduced the amount of angler participation, but fishing success was generally better than average during the cool season. From then on, good fishing weather was spotty. In areas such as the Georgian Bay and tributary streams where a late fall season on rainbow trout, walleye and muskie prevails, some excellent catches of these species were made by hardy and persistent anglers. The year 1964 throughout Ontario had its many moods and successful anglers were those that managed to adapt their methods and periods of activity to the changing conditions.

Angling success varied considerably with the area and with the species of fish involved. Generally the catch records of 0.2 to 0.5 fish per rod hour constituted good to excellent fishing for such species as bass, walleye, trout and pike. Maskinonge are more difficult to catch and may require between fifty and one hundred hours to land a fish of legal size.

District personnel, assisted in some instances by summer students, devoted considerable time to field investigations involving lake and stream surveys, fish population studies and the assessment of angler success. Such studies formed a major part of the field program which was directed mainly towards obtaining inventory data and information on the current use of the resource relative to the development of appropriate management plans. A number of special projects were also undertaken in 1964 and these are outlined under separate headings.

Although it not possible to accurately determine the number of anglers that fished in Ontario in 1964, it is apparent that public interest in fishing continued at a high level. The continued increase in the amount of recreational facilities available (provincial and private parks, motels, resorts, boat rental establishments, and private cottages) and their expanded use, coupled with a slight increase in the number of non-resident licences sold, indicates the relative increase in activity and suggests, on the basis of previous records, that the total number of anglers fishing in Ontario waters probably exceeded two million in 1964.

All angling licences showed a slight increase in sales with the exception of non-resident seasonal. The sale of non-resident 3-day licences jumped sharply from 69,401 in 1963 to 100,121 in 1964, and this undoubtedly had some effect on the number of seasonal licences sold. Although there was a slight increase of \$10,582 in the revenue from the total sales of angling licences in 1964, this is actually the smallest increase during the past five years and is indicative of a gradual levelling off in the heretofore continuous increase in revenue.

The number and value of angling licence sales for 1964 and for the preceding three years is presented in Table I.

## Hatcheries

The production of fish for restocking purposes at our provincial hatcheries was maintained at a reasonably high level in 1964. In all, seventeen hatchery establishments were operated and these are listed below according to classification, geographic location and Forest District:

Hatchery	Location	Forest District
<b>Trout Rearing Stations</b>		
Chatsworth	Chatsworth	Lake Huron
Tarentorus	R.R. 2, Sault Ste. Marie	Sault Ste. Marie
Hill Lake	Charlton	Swastika
Dorion	Dorion	Port Arthur
Normandale	R.R. 1, Vittoria	Lake Erie
North Bay	Balsam Creek	North Bay
Pembroke	R.R. 6, Pembroke	Pembroke
Codrington	Codrington	Lindsay
<b>Pond Stations</b>		
Westport	Westport	Kemptville
White Lake	Mountain Grove	Tweed
Deer Lake	Cordova Mines	Lindsay
Midhurst	Midhurst	Lake Simcoe
Skeleton Lake	Ullswater	Parry Sound
Sandfield	Sandfield	Sudbury
<b>Jar or Trough Stations</b>		
Warton	Warton	Lake Huron
Little Current	Little Current	Sudbury
Port Arthur	Port Arthur	Port Arthur

The Chatsworth station was back in full production after a period of renovation and contributed significantly to the fisheries program. The Normandale hatchery was inoperative but the Gibson Creek ponds, an independent sub-station of Normandale, was functional throughout 1964. The construction of the new trout rearing station at Normandale progressed steadily and the pond areas were completed. Erection of the new hatchery building was commenced in 1964 and is scheduled for completion in 1965. Preliminary planning was carried out for the reconstruction of the North Bay (Balsam Creek) hatchery and trout rearing station.

The total distribution of fish from provincial hatcheries for 1965 is outlined in Table II. This year, approximately 48,842,302 fish of various ages, eyed eggs to adults, and including nine species were produced and planted in Ontario waters. A summary of the total distribution by species for 1964 and for the preceding four years is also tabulated in Table 3.

The decrease in the production and planting of walleye and whitefish eyed eggs and fry was the most significant change during the current year. This reduction was due mainly to a recent change in department policy curtailing the distribution of walleye and whitefish eyed eggs and fry for maintenance planting in waters where these fish are already established.

The Manitoba government provided Ontario with 200,000 lake trout eyed eggs in exchange for 100,000 brook trout eyed eggs and 50,000 maskinonge fry supplied from Dorion and Deer Lake hatcheries respectively. Two additional lots of 50,000 maskinonge fry were also supplied to the National Parks Branch of the Federal government and to the Fish and Game Department of the Province of Quebec from the Deer Lake hatchery.

As part of an extensive program to rehabilitate lake trout in Lake Superior, large scale plantings of marked lake trout yearlings were carried out in 1964 from Dorion and Tarentorus hatcheries. Some 222,400 of these fish were released

in the Rossport-Pie Island areas of western Lake Superior and some 250,000 fish were planted in the eastern portion of the lake.

A large planting of 110,722 marked lake trout yearlings was also made in Lake Ontario. This planting was the second and final planting of a two-year program which was initiated jointly between Ontario and the New York Conservation Department in 1963. The fish were provided by the U.S. Fish and Wildlife Service from their national hatchery at Charlevoix, Michigan. A follow-up study on the success of these plantings will be carried out by the Research Branch of the department.

Two special projects of interest were undertaken in the hatchery program in 1964 and are as follows:

#### *(a) Pellet Feeding Experiments*

A new pellet food for trout, providing a more balanced diet, has been developed by Glencoe Mills Inc., Glencoe, Minnesota. This pellet food was used extensively in Ontario hatcheries in 1964 and several continuing experiments to determine cost and advantages were set up to test the new product. The results as yet are inconclusive, but it is readily apparent that the new pellet does have superior qualities in the production of trout.

#### *(b) Kokanee Salmon*

Some three and a quarter million Kokanee eyed eggs were received at Ontario hatcheries during the fall of 1964 as the first step in a serious attempt to introduce this species to specific waters of the Great Lakes. The egg stocks had their origin in British Columbia, Montana, Washington and Colorado. They were transferred to Chatsworth, Sandfield and Wiarton hatcheries and the Glenora Research Station for further incubation and culture before planting in the eyed egg and fry stages. The plantings are scheduled for suitable locations on Georgian Bay, Lake Huron, Lake Ontario and specific tributary streams. A follow-up project will be initiated by the Research and Fish and Wildlife Branch of the department to determine the success of the introductions.

## Private Hatcheries

Owners of private waters in Ontario must purchase the game fish required for restocking purposes from licenced private hatcheries and authorization for all plantings must be obtained from the department before the fish may be transported from the hatchery property.

The number of private fish hatcheries is gradually increasing, and 29 licences were issued in 1964 for the sale of fish for restocking purposes. This is an increase of four over the number issued in 1963. A summary of the 1964 distribution of fish for restocking from private hatcheries is outlined in Table IV.

A new licence authorizing the sale of fish for human consumption was established in 1963. Nineteen such licences were issued in 1963, and 20 in 1964. This new licence is only available to those landowners with a water supply which is wholly contained on their property and which is not located on a natural watercourse, except where such watercourse originates on the property. Furthermore, all fish sold for human consumption must be tagged or packaged for identification as a commercial product.



# Special Projects

## 1. NET SECTION

Four net men, one truck driver and a net foreman are employed in the Net Section at Maple. In addition to their usual duties in the building and maintenance of netting gear for use in departmental field projects throughout a major portion of the province, they also participated in various netting operations undertaken directly or in co-operation with district personnel. A summary of 1964 field projects is as follows.

In order to determine walleye (pickerel) population densities, fish migrations, utilization by sport and commercial interests and, in some cases, to determine the contribution made by the planting of hatchery reared stocks, walleye tagging was carried out in the following areas: Shawanaga Basin of Georgian Bay (Parry Sound Forest District); Batchawana Bay of Lake Superior, North Channel at Blind River and Bright Lake (Sault Ste. Marie Forest District); and Kashwakamak and Mississagagon Lakes (Tweed Forest District). Surveys of fish populations were carried out on Chandos and Jack Lakes (Lindsay Forest District) and on Lake St. John (Lake Simcoe Forest District). Suitable netting sites were located on Mishibishu and White Lakes (White River Forest District) and on Lake Simcoe. A number of tagged adult walleye was transferred from the Talbot River to Canal Lake as a restocking venture and netting operations were also carried out to collect fish for the Canadian National Exhibition and the Canadian National Sportsmen's Show. In addition, nets were operated for the collection of lake trout eggs in Mishibishu Lake, Lake Simcoe and Lake Manitou, for white-fish eggs on Lake Manitou and for walleye eggs on the Talbot River.

The Port Arthur section of the netting staff consists of two net men who carry out similar duties in the Western and Mid-western Regions of the province. In 1964, they were involved in the tagging and transfer of muskies (Sioux Lookout Forest District); collection of lake trout eggs and sucker eggs (Port Arthur Forest District); walleye tagging, walleye transfer and four lake surveys (Port Arthur Forest District); demonstration of large trap nets (Kenora Forest District); and the building and operation of an experimental trawl for herring (Port Arthur Forest District).

## 2. PATRICIA INVENTORY

The year 1964 marked the end of the Patricia Fisheries Inventory Project as such under the terms of the old Federal-Provincial Agreement. For the future, it is proposed that the surveys required in the Patricia district be conducted by fisheries personnel in the Forest Districts concerned.

The Patricia Inventory was initiated in 1959 and its purpose was to survey the important waters, examine the respective fish populations in detail, and to plan and institute appropriate management of the fisheries in the respective waters. To achieve this objective, a relatively intensive study was planned for each of the larger lakes and/or for at least one lake on each of the major watersheds in the area. This fact finding program had progressed steadily since its inception in 1959 and previously initiated surveys on Big Trout, Winisk and Sachigo Lakes were brought to completion in 1964.

In addition to these major surveys, fish management officers in the Forest Districts of Sioux Lookout and Cochrane conducted a number of short term or preliminary surveys on minor lakes during 1964. Commercial fishing licences were issued when fish populations warranted such action. A sport fishery and resort business have been developed on Hawley Lake



and Sutton River and are operated by two local Indian families. This fishery was followed closely and reported on by the fisheries staff in the Cochrane District during 1964.

### 3. OUANANICHE (ATLANTIC SALMON) PROJECT

This project, initiated in 1962 on Trout Lake near North Bay, is of a continuing nature as facts concerning the life history and ecology of the species can only be collected at specific times of the year. Some work was conducted in 1964 and a special effort was made to capture young salmon on their downward migration from the headwaters of tributary streams. Observations have also been made on the spawning run of adults in Four Mile Creek, a spring fed tributary. In addition, a number of plantings of hatchery reared ouananiche (origin Trout Lake) have been made. This year, a planting of 15,400 fry took place in North River at the forks of Balsam Creek.

The study will continue, and it is expected that the information so gained will be of great value in managing this unique fishery and perhaps in extending the range of ouananiche farther afield in Ontario.

### 4. PUBLIC FISHING AREAS

The St. William's Pond is five acres in size and is located on the St. William's Forestry Station in the Lake Erie Forest District. This pond was first established as a public fishing area in 1963, and provided an adequate harvest of recently stocked brook and rainbow trout. It was restocked similarly in 1964 with satisfactory results.

The Schoolhouse Pond is one half acre in size and is located a few miles south of the Normandale Trout Rearing Station in the Lake Erie Forest District. For the second year, it was stocked with hatchery reared brook trout in 1964 and was operated successfully as a public fishing area.

The Mount Pleasant site, located four miles south of Brantford in the Lake Huron Forest District, underwent complete renovation and was not operated as a public fishing area in 1964. The renovation included a regrouping of the seven ponds into three larger units with a greater depth of water and an increased carrying capacity for fish. It is proposed that the new ponds be stocked with brook and rainbow trout and that public fishing commence in 1965.

### 5. LAKE OF THE WOODS FISH MANAGEMENT UNIT

The third year of a five-year programme on Lake of the Woods was completed in 1964. Initiated in 1962, the study is slated to continue until 1967. The purpose of this study is to establish the physical, chemical and biological characteristics of the Lake of the Woods basin which will ultimately provide a sound basis for future management of this valuable fishery. The areas completed to date include Shoal Lake in 1962, the northern section in 1963, and the central region in 1964. In future years, the area lying south of the Aulneau Peninsula will be completed in 1965 and Whitefish Bay in 1966.

Measurements of a physical nature included water turbidity, depth, bottom type and temperature gradients at two established stations. Determination of chemical characteristics was based on the analyses of water samples conducted by the Ontario Water Resources Commission in Toronto. These measurements of fertility are indicative of the productivity of a lake environment.

Much of the summer work, however, was concerned with the netting, measuring, weighing and tagging of fish. Scale samples were also taken so that growth rates and age composition of the various fish populations could be determined. These data when analyzed will aid greatly in assessing the status of the fishery and in the development of appropriate management plans.

## 6. KAWARTHA LAKES FISH MANAGEMENT UNIT

The nature of the work carried out by this Unit was quite similar to that conducted on Lake of the Woods. The second year of a continuing study was completed in 1964 and trap netting was carried out on Pigeon, Sturgeon and Cameron Lakes, Nogies Creek Fish Sanctuary and Omemee Mill Pond (Pigeon Creek). Most of the fish so captured were tagged and fin clipped and subsequently released after all relevant data pertaining to length, weight and age had been recorded. This is all part of a study to determine population size, rate of growth, fish migrations and the extent of natural reproduction in the areas concerned. Such information is used in conjunction with water fertility data and fish harvest statistics (creel census) to determine a suitable fish management plan for the Kawarthas.

The tagging and transfer of largemouth bass and maskinonge from the Nogies Creek Fish Sanctuary in the fall has been continuing for many years, and has been closely allied to scientific studies of these two species. A number of fish are transferred annually to other waters in the Kawartha chain and the maskinonge particularly have contributed directly to the public fishery. The Kawartha Unit is now in charge of this annual transfer and is responsible for the collection and analysis of data on the tagged fish that are captured by anglers.

## 7. FISH POPULATION STUDIES

Several biological surveys requiring much more than routine effort were conducted during 1964. In these special studies, particular attention was given to the abundance, age composition, rate of growth, utilization and distribution of existing fish populations. Such work was carried out on Rainy Lake (Fort Frances Forest District); Shawanaga Basin of Georgian Bay (Parry Sound Forest District); and Batchawana Bay of Lake Superior, North Channel at Blind River, and Bright Lake (Sault Ste. Marie Forest District). In addition, special investigational work was initiated in 1964 on Kashwakamak and Mississagagon Lakes (Tweed Forest District) to determine the effect of planting hatchery-reared walleye fry and fingerlings in areas containing established populations of the same species.

## REGULATIONS

The establishment of longer open seasons continued in 1964 with respect to early spawning fish, prolific species, and those that are maintained to a large degree by the planting of hatchery-reared stock. The following amendments were in effect during 1964:

- (a) The early opening (last Saturday in February) of the brook trout season in southeastern Ontario was extended to portions of northeastern Ontario and angling through the ice commenced on February 29th. The season on rainbow trout opened on the same date in the same parts of Ontario.
- (b) Parts of far northern Ontario bordering on Hudson and James Bays were

established as an area in which brook trout could be legally taken at any time of the year.

- (c) A new line running from Pembroke to Georgian Bay (Muskoka) was established relative to the walleye open season and was based on the spawning period of walleye in the areas concerned. With several minor exceptions, the season south of this line opened on the second Saturday in May, and in the area north of the line the third Saturday of May was established as opening date.
- (d) The extended fall season (November 30th) on rainbow trout was established for portions of Great Lakes' tributary streams in the Territorial Districts of Manitoulin, Algoma and Thunder Bay.
- (e) An open season from the third Saturday in May to April 14th was established for blue pickerel in Lake Nipissing so as to correspond with the walleye season in the same area.
- (f) In northern Ontario, a new line was established along latitude  $48^{\circ}$  and  $47^{\circ}30'$ , north of which there was no closed season on lake trout in the Territorial Districts of Algoma and Sudbury.
- (g) A trend was established in 1964 to set opening dates for angling seasons on a designated first, second, third or fourth Saturday whenever feasible.

Table 1

## SALE OF ANGLING LICENCES

Type of Licence	1961		1962		1963		1964	
	Quantity	\$ Revenue	Quantity	\$ Revenue	Quantity	\$ Revenue	Quantity	\$ Revenue
Non-Resident Seasonal .....	409,873	2,460,735.74	426,775	2,562,171.00	405,167	2,434,502.00	390,484	2,346,400.00
Non-Resident 3-day .....	—	—	—	—	69,401	208,581.00	100,121	300,740.00
Non-Resident Organized Camp .....	6,202	12,404.00	6,533	13,066.00	4,168	8,336.00	4,530	9,060.00
Manitoba .....	6,303	19,111.50	—	—	—	—	—	—
Resident Prov. Park .....	11,425	34,651.25	10,880	33,017.50	11,075	33,600.00	12,982	39,321.00
Resident Prov. Park Organized Camp .....	310	310.00	320	320.00	201	201.00	281	281.00
TOTAL REVENUE	\$2,527,212.49		\$2,608,574.50		\$2,685,220.00		\$2,695,802.00	



Table 2

## FISH DISTRIBUTION FROM ONTARIO PROVINCIAL HATCHERIES FOR 1964

HATCHERY	Brook Trout	Lake Trout	Rainbow Trout	Largemouth Bass	Smallmouth Bass	Maskinonge	Whitefish	Walleye	Splake
Chatsworth	141,580 Y	29,163 Y	51,730 Y	—	—	—	—	—	—
Codrington	41,480 Y	37,820 Y	31,150 Y	—	—	—	—	—	—
Deer Lake	41,500 Y	24,320 Y	—	—	—	1,530,000 F 26,300 Fg	—	—	—
Dorion	400,000 EE 358,050 Fg 34,560 Y 2,220 A	222,400 Y	—	—	—	—	—	—	—
Hill Lake	122,000 Fg 240,200 Y 37,700 A	38,728 Y 535 A	115,500 Fg 39,410 Y 253 A	—	—	—	—	—	—
Little Current	—	—	—	—	—	27,090,000 F	7,500,000 EE	—	—
Midhurst	65,100 Y	—	—	—	—	—	—	—	—
Normandale	8,000 Y 12,950 A	—	25,000 Fg 14,300 A	—	—	—	—	—	—
North Bay	81,000 Y 21,500 A	690 Fg 63,500 Y	15,200 Y	—	—	—	—	—	—
Pembroke	8,000 F 25,700 Fg 239,434 Y	—	—	—	—	—	—	—	—
Sandfield	197,900 Y 150 A	41,775 Y	—	—	52,000 F 48,500 Fg 125 A	—	—	—	—
Skeleton Lake	110,700 Y	74,000 Y	75,000 Y	—	62,750 Fg 165 A	—	—	—	—
Tarentorus	291,100 Y 37,400 A	20,000 EE 342,825 Y	16,800 Y	—	—	—	—	—	87,650 Y 11,645 A
Westport	19,600 Y	30,000 Y	8,000 Y	64 650 Fg 112,000 F	40,700 Fg	—	—	6,500,000 EE	—
White Lake	214,005 Y	77,275 Y	81,600 Y	26,000 Fg	87,500 Fg	—	—	1,353,000 F	—

OTHER SPECIES: 106 Atlantic Salmon (Ouananiche) adults were distributed from Dorion Hatchery

275 Grayling adults were distributed from Dorion Hatchery

582 Aurora Trout fry were distributed from Hill Lake Hatchery

682 Aurora Trout yearlings were distributed from Hill Lake Hatchery

3,873 Albino Brook Trout were distributed from Hill Lake Hatchery

15,400 Atlantic Salmon (Ouananiche) fry were distributed from North Bay Hatchery

NOTE: EE — Eyed Eggs

F — Fry

Fg — Fingerlings

Y — Yearlings

A — Adults

Table 3

## FISH DISTRIBUTION FROM 1960 TO 1964

Species of Fish	Number of Fish Planted				
	1960	1961	1962	1963	1964
<b>Black Bass, Largemouth</b>					
Fry .....	230,550	—	55,000	45,000	112,000
Fingerling .....	29,500	25,250	112,120	92,550	90,650
Yearling and Adult ..	20	178	20	—	—
<b>Black Bass, Smallmouth</b>					
Fry .....	156,000	230,000	147,000	134,000	52,000
Fingerling .....	177,600	270,200	177,300	287,700	239,450
Yearling and Adult ..	510	619	291	316	290
<b>Char, French Alpine</b>					
Adult .....	345	—	—	—	—
<b>Grayling, Arctic</b>					
Adult .....	—	—	500	—	275
<b>Herring</b>					
Fry .....	50,000	—	—	—	—
<b>Maskinonge</b>					
Fry .....	3,390,000	2,832,500	2,970,000	1,870,000	1,530,000
Fingerling .....	51,405	74,500	23,550	27,150	26,300
<b>Ouananiche</b>					
Eggs .....	—	—	53,280	—	—
Fry .....	—	—	—	1,250	15,400
Yearling .....	—	—	—	4,520	—
Adult .....	660	—	—	—	106
<b>Walleye</b>					
Eggs .....	53,790,000	27,065,000	20,500,000	7,200,000	14,000,000
Fry .....	3,600,000	—	8,994,000	11,440,000	1,353,000
Fingerling .....	—	66,923	201,070	217,000	—
<b>Salmon, Kokanee</b>					
Yearling .....	250	—	—	—	—
<b>Splake</b>					
Yearling .....	13,151	97,068	111,792	114,100	87,650
Adult .....	—	5,640	—	2,400	11,645
<b>Trout, Albino</b>					
Yearling .....	—	—	—	5,303	3,873
<b>Trout, Aurora</b>					
Fry .....	—	—	—	—	582
Fingerling .....	2,000	—	1,347	—	—
Yearling .....	—	1,300	—	—	682
<b>Trout, Brook</b>					
Eggs .....	49,000	30,000	493,500	574,580	400,000
Fry .....	15,000	—	—	—	8,000
Fingerling .....	863,925	763,625	651,300	391,570	505,750
Yearling .....	1,615,960	2,051,875	1,655,249	1,883,478	1,725,755
Adult .....	76,481	72,562	75,445	72,522	111,920
<b>Trout, Brown</b>					
Fingerling .....	1,700	640	—	—	—
Yearling .....	85,380	5,000	—	—	—
Adult .....	79	—	—	—	—
<b>Trout, Lake</b>					
Eggs .....	—	—	—	—	20,000
Fry .....	—	43,700	13,000	—	—
Fingerling .....	389,125	369,500	240,300	185,800	690
Yearling .....	653,065	714,670	988,732	949,754	981,806
Adult .....	115	8,278	718	5,510	535
<b>Trout, Rainbow</b>					
Eggs .....	—	3,000	—	—	—
Fingerling .....	28,120	101,896	60,300	3,000	140,500
Yearling .....	79,090	229,375	291,158	173,152	318,890
Adult .....	122	—	8,650	11,380	14,553
<b>Whitefish</b>					
Eggs .....	12,000,000	13,875,000	—	—	—
Fry .....	62,993,000	53,685,000	46,575,000	46,350,000	27,090,000
<b>TOTAL</b>	<b>140,342,153</b>	<b>102,623,299</b>	<b>84,400,622</b>	<b>72,042,035</b>	<b>48,842,302</b>

NOTE: Figures are compiled on a calendar year.

Table 4

SUMMARY OF THE DISTRIBUTION OF FISH FOR RESTOCKING  
PURPOSES FROM PRIVATE COMMERCIAL HATCHERIES  
1964

Species	Number of Plantings	Number of Fish	Age Class
Brook Trout .....	131	382,115	Fry/Fingerlings
	94	51,250	Yearlings
	57	7,540	Adults
Rainbow Trout .....	3	43,000	Eggs
	31	65,885	Fry/Fingerlings
	78	20,367	Yearlings
	47	5,328	Adults
Largemouth Bass .....	7	570	Fingerlings/Yearlings
	4	251	Adults
Bluegills .....	4	325	Yearlings

COMPARATIVE STATEMENT OF THE YIELD OF THE FISHERIES  
IN THE PROVINCE OF ONTARIO

Species	1963 lbs.	1964 lbs.	Increase lbs.	Decrease lbs.
Smelt .....	10,705,175	12,886,676	2,181,501	
Perch (yellow) .....	18,671,552	9,363,227		9,308,325
Yellow Pickerel .....	5,107,526	3,678,141		1,429,385
Whitefish .....	3,356,508	3,229,365		127,143
Chub & Tullibee .....	2,329,284	2,035,122		294,162
Lake Herring .....	2,374,189	1,992,959		381,230
White Bass .....	1,991,290	1,836,208		155,082
Suckers .....	1,650,163	1,450,479		199,684
Northern Pike .....	990,042	1,134,169	144,127	
Carp & Carp Roe .....	1,322,501	938,151		384,350
Sheepshead .....	1,502,980	830,670		672,310
Ling .....	615,479	600,307		15,172
Bullheads .....	740,099	512,580		227,519
Sunfish .....	357,966	357,703		263
Catfish .....	300,372	287,069		13,303
White Perch .....	53,332	272,008	218,676	
Eels .....	174,750	250,298	75,548	
Lake Trout .....	253,997	224,330		29,667
Rock Bass & Crappies .....	176,745	205,787	29,042	
Saugers .....	135,658	140,861	5,203	
Sturgeon .....	132,203	98,160		34,043
Menominee .....	19,700	69,987	50,287	
Goldeyes .....	19,985	27,935	7,950	
Caviar .....	1,321	1,603	282	
Blue Pickerel .....	280	115		165
Dogfish, Alewife, Gar, Shad & unclassified "Mink Food" .....	1,359,304	1,086,442		272,862
TOTAL .....	54,342,401	43,510,352		
NET DECREASE .....				10,832,049

# COMPARATIVE STATEMENT OF THE NUMBER OF COMMERCIAL FISHING LICENCES ISSUED IN THE PROVINCE OF ONTARIO

Type of Licence	1963	1964	Increase	Decrease
Gill Net .....	1,075	1,088	13	
Pound & Trap Net .....	166	161		5
Hoop Net .....	269	266		3
Coarse Fish Seine .....	92	90		2
Baited Hook .....	222	251	29	
Dip Net .....	16	17	1	
Trolling .....	22	27	5	
<b>TOTAL</b> .....	<b>1,862</b>	<b>1,900</b>		
Bait-fish Seine, Trap & Dip .....	2,125	2,114		11
Bait-fish Dealers .....	591	651	60	
Bait-fish Preserving .....	101	121	20	
<b>TOTAL</b> .....	<b>2,817</b>	<b>2,886</b>		
<b>TOTAL ALL LICENCES</b> .....	<b>4,679</b>	<b>4,786</b>		
<b>NET INCREASE</b> .....			<b>107</b>	

## BAIT FISH PRODUCTION AND VALUE BY FORESTRY DISTRICT 1964

District	Value	Catch (By Dozens)
Aylmer .....	\$519,726.	1,960,102
Chapleau .....	349.	383
Cochrane .....	10,000.	23,775
Fort Frances .....	74,279.	161,610
Geraldton .....	5,488.	13,923
Gogama .....	909.	1,851
Hespeler .....	12,729.	43,964
Kapuskasing .....	2,132.	7,050
Kemptville .....	50,910.	110,675
Kenora .....	142,210.	294,479
Lindsay .....	110,000.	177,700
Maple .....	36,328.	119,587
North Bay .....	72,784.	117,491
Parry Sound .....	77,372.	155,060
Pembroke .....	11,452.	26,830
Port Arthur .....	50,000.	120,000
Sault Ste. Marie .....	22,341.	36,544
Sioux Lookout .....	33,558.	73,979
Sudbury .....	61,624.	80,724
Swastika .....	7,455.	18,986
Tweed .....	81,078.	181,936
White River .....	4,529.	8,178
<b>TOTAL</b> .....	<b>\$1,387,253.</b>	<b>3,734,827</b>
Average price — 39¢ per dozen		

## THE COMMERCIAL FISHERY

During 1964 a total of 43,510,352 pounds of fish was landed by Ontario commercial fishermen. The value of these fish to the primary producer was \$5,229,820.11. While the 1964 catch showed a decrease of over ten million pounds or 20 per cent from the previous year, the value was down only five per cent from \$5,503,955.00 in 1963 to \$5,229,820.00 in 1964. A major decline in yellow perch production of over nine million pounds accounted largely for the reduced landings in 1964 while improved prices for the same species of over ten cents per pound meant that the returns to the fishermen were only \$274,135.00 less than the previous year. It is of interest that the value of the 1964 catch was only slightly less \$(111,380.00) than the value of the all-time record production of 1962 landings in excess of sixty-three million pounds were recorded.



Comparison of 1964 landings by lake shows Lake Erie led in production with over 58 per cent of Ontario's total—a reduction from the 66 per cent position of the previous year. The Northern Inland water's classification, which includes such large lakes as Nipigon, Rainy and Lake of the Woods as well as over two hundred smaller bodies of water produced over 18 per cent of Ontario commercial fish. Percentages for the other lake divisions were as follows: Lake Huron 7%; Lake Superior 6%; Lake Ontario 5%; Lake St. Clair 2%; Georgian Bay and North Channel a total of 2% and Southern Inland waters 1%.

Of the nine fishing areas, three, Lake Huron, Georgian Bay and North Channel, had increased production ranging from 32% and 24% for the latter two respectively, to 2% for the waters of Lake Huron proper. A major decrease in Lake Erie of 28% was due to lower perch catches there. A reduction in carp landings resulted in 32% lower production in lakes and rivers fished commercially in Southern Ontario. Minor percentage decreases occurred in Northern Inland, Lake Superior, Lake Ontario and Lake St. Clair. In Lake St. Clair, however, the value of the catch rose by over six per cent in spite of a 97,000 pound reduction in landings. In all cases where major reductions in fish production occurred the loss in actual value of the landings was much less severe. In Lake Erie for example, the reduction of 28% in production was accompanied by only a 6% decrease in catch value as compared to 1963.

Ten of the 25 species of fish marketed by the Ontario commercial fishery made up over 90% of all landings. Two species, smelt and yellow perch, largely from Lake Erie production, amounted to over one-half of the total. Of these, smelt contributed 30% and perch, down by one-half from 1963, still amounted to over 21% of all production for the Province.

Yellow pickerel (walleye) landings showed a decrease of 28% over the previous year due to reduced catches in Lake Erie, where a dominant year-class had provided excellent fishing in 1963, and to other minor decreases. A closed season for walleye during part of April and May in Georgian Bay reduced potential production there. As is generally the case with markets the reduction in catch of this highly desired species was accompanied by improved prices. The average price for yellow pickerel rose accordingly from 26.9 cents per pound in 1963 to 29.1 cents in 1964.

Whitefish contributed over 7% of commercial production in 1964, a position little changed from the previous year. The other members of this family of fish, the lake herring and chub or tullibee made up over 9% of Ontario's catch, likewise little changed from 1963. White bass, suckers, pike, carp and sheepshead all contributed significantly, amounting to well over one-tenth of all landings. Of these a minor increase occurred in landings of pike.

Sturgeon and the by-product, caviar, while contributing a total of only one hundred thousand pounds, continued to be by far the most sought-after product of Ontario's fishery. Average prices of over \$1.00 per pound for the fish and over \$3.50 for the caviar were received by fishermen. Much of this production continued to be taken by Indian fishermen in the waters draining into Hudson and James Bay from the Patricia area.

The number of persons engaged in fishing was reduced by nearly 10 per cent from 3,271 in 1963 to 2,952 in 1964. Part of the reason for the decrease can be found in the active competition for workers by other industries where higher wages are attractive. The fishery in parts of Ontario, by utilizing more machinery and more efficient gear, such as trawls, has been able partly to offset the out-flow of labour from the fishing industry. It is generally noted, however, that the primary fishing industry in Ontario has difficulty in maintaining an income growth consistent with that in the more important industries of the Province.

The value of the equipment, including nets, boats and shore installations used in the primary industry remained about the same as in 1963 at just over ten million dollars.

A total of 4,786 commercial fishing licences were issued by the Department of Lands and Forests in 1964. Of these the greater number, 2,886 were issued at the District Offices for taking or dealing in bait fish. A small, 2% increase from 1,862 to 1,900 occurred in the number of commercial fishing licences issued by the Fish and Wildlife Branch.

Production of bait fish, not including quantities of fish imported into the Province, amounted to an estimated 3,734,827 dozen worth \$1,387,253.00 to the producer fishermen.

## COMPARATIVE STATEMENT OF THE PRODUCTION OF THE FISHERIES IN THE PROVINCE OF ONTARIO

### Yield by Fishing Area

Fishing Area	1963 lbs.	1964 lbs.	Increase lbs.	Decrease lbs.
Lake Erie .....	35,301,269	25,381,013		9,920,256
Northern Inland .....	8,440,489	7,938,014		502,475
Lake Huron .....	2,948,368	3,017,662	69,294	
Lake Superior .....	2,973,136	2,681,586		291,550
Lake Ontario .....	2,046,347	2,015,218		31,129
Lake St. Clair .....	1,042,742	945,823		96,919
Georgian Bay .....	554,881	734,989	180,108	
Southern Inland .....	863,181	582,114		281,067
North Channel .....	171,988	213,933	41,945	
TOTAL .....	54,342,401	43,510,352		
NET DECREASE .....				10,832,049

### Value by Fishing Area

Fishing Area	1963 \$	1964 \$	Increase \$	Decrease \$
Lake Erie .....	2,529,590.16	2,377,284.25		152,305.91
Northern Inland .....	1,169,527.76	1,047,423.81		122,103.95
Lake Huron .....	651,471.28	711,178.11	59,706.83	
Lake Ontario .....	347,852.48	284,955.00		62,897.48
Lake Superior .....	271,337.43	248,791.55		22,545.88
Lake St. Clair .....	218,882.16	232,401.23	13,519.07	
Georgian Bay .....	164,168.70	189,898.20	25,729.50	
Southern Inland .....	102,336.34	73,399.33		28,937.01
North Channel .....	48,788.96	64,488.63	15,699.67	
TOTAL .....	5,503,955.27	5,229,820.11		
NET DECREASE .....				274,135.16

## For the Year Ending December 31, 1964

NUMBER OF MEN:		387	612	72	172	115	92	160	1,204	138	2,955
FISHING BOATS:											
40 feet and over	No.	3	121		39	32	5	17	12		
	Tons	32	2,520		769	453	62	178	111		229
	Value	23,200	1,953,128		540,162	318,868	33,421	119,900	97,282		4,125
20 to 39 feet	No.	85	85	18	16	40	13	37	80	3	83,085,961
	Value	126,880	279,253	44,482	50,343	91,900	18,875	87,875	156,423	1,600	885,763
Under 20 feet	No.	337	95	48	8	46	46	65	459	106	1,210
	Value	88,712	31,595	19,505	2,450	21,825	8,470	27,755	199,995	25,770	8426,077
FISHING GEAR:											
Gill net	Yards	945,214	4,214,311		1,263,642	889,529	184,100	700,245	885,775	26,900	9,108,716
	Value	239,865	1,264,613		333,678	205,889	50,015	157,661	231,909	9,300	\$2,492,930
Pound nets	No.		157,000	465	6	60	25	13,930	53		873
	Value		157,450	157,450	3,850	103,700	15,400	13,930	40,480		\$491,310
Trap nets	No.		291,100		156	4	15	10	36		512
	Value		291,100		134,209	1,250	8,500	7,500	19,881		\$462,440
Hoop nets	No.	1,030		10					103	658	1,889
	Value	59,535	7,920	500					8,775	33,050	\$109,080
Seine nets	No.	1,855	9,550	2,350				120		1,552	15,677
	Yards	4,200	30,387	3,250				75		3,550	\$11,542
Night lines	Hooks	39,851	10,146	22,000	150	1,500			5,100	3,870	82,597
	Value	8,897	3,208	4,516	25	385			916	395	\$18,142
Dip, nets	No.	3	3					5	1	4	\$108
	Value	30	12					27	3	36	\$905
Trolling lines	No.	30									134
	Value	905						4			\$117,220
Trawls	No.	3	127					3,600			
	Value	3,600	110,620								
SHORE											
INSTALLATIONS											
Freezers and	No.	35	38	12	23	37	14	40	341	9	543
ice houses	Value	19,500	376,985	15,434	89,550	52,350	10,550	28,690	223,805	4,445	\$821,309
Piers and wharves	No.	42	67	15	16	45	13	45	242	8	493
	Value	31,095	83,350	6,162	7,125	43,725	3,850	19,075	65,315	2,315	\$262,012
Net sheds	No.	162	164	26	73	55	20	71	154	26	731
	Value	132,630	419,992	56,973	112,750	74,150	15,650	56,265	64,747	11,562	\$944,719
TOTAL VALUE.		\$7,38,449	\$5,008,463	\$308,072	\$1,273,642	\$914,042	\$164,731	\$522,353	\$1,109,531	\$92,003	\$10,131,286





Commercial fish catch in seine net. Long Point Bay, Lake Erie.



QUANTITIES OF FISH TAKEN (IN POUNDS) IN THE PUBLIC WATERS OF ONTARIO BY THE FISHING INDUSTRY  
in the Year Ending December 31, 1964

Species	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Georgian Bay	North Channel	Lake Superior	Northern Inland	Southern Inland	Total Catch	Total Value
Blue Pickerel		115								115	\$31.88
Bullhead	146,592	33,799	10,711	250	25	70	54	146,895	174,184	512,580	72,175.15
Carp	270,301	187,442	211,203	16,585	24,113	885	233	305	226,984	938,151	66,886.03
Catfish	20,344	171,401	61,527	7,338	10,666	120		325	15,348	287,069	53,687.91
Chub & Tullibee	5			1,442,020	120,654		42,334	430,109		2,035,122	333,384.42
Eels	245,707	208							4,333	250,298	50,198.33
Lake Herring	37,884	1,839		8,855	1,668	365	1,935,104	7,253		1,992,959	64,052.19
Lake Trout	63	31		1,434	16	225	105,950	116,611		224,330	83,976.02
Ling		1,100			276	523				600,307	7,430.32
Northern Pike	31,807	2,024	23,506	556	11,315	25,197	4,291	588,731	1,100	1,134,169	85,234.19
Perch (Yellow)	235,003	8,351,104	20,941	601,680	78,289	28,492	27,445	1,032,710	2,763	9,363,227	1,709,945.93
Menominee				5,062	5,567	3,598	55,760	9,408	10,365	69,987	6,465.54
Suckers	38,686	87,886	90,500	98,280	77,193	35,504	64,481	930,889	29,060	1,450,479	23,256.79
Rock Bass & Crappies	39,653	65,596	35,409			1,138	253	53,753	9,985	205,787	38,748.24
Saugers	2,994	200	88	162			58,948	78,469		140,861	28,866.95
Sheepshead	34,321	751,515	7,512	32,285	523			2,018	2,496	830,670	13,418.52
Smelt	128,057	12,735,219		21	236		20,343	500	2,300	12,886,676	327,394.92
Sturgeon	5,795	1,147	9,317	5,602	3,285	9,084	1,193	56,783	5,954	98,160	105,019.11
Caviar			12	403		41		1,147		1,603	5,897.15
Sunfish	192,091	24,132	56,622					143	84,715	357,703	39,597.49
White Bass	69,695	1,722,868	26,656	12,602				1,443	2,944	1,836,208	283,492.07
Whitefish	124,886	3,203		320,257	232,165	92,763	132,581	2,323,510		3,229,365	728,436.01
Walleye	66,100	599,321	355,882	285,711	92,592	15,428	215,887	2,047,214		3,678,141	1,069,695.82
Dogfish	6,184	19,552	95		22				7,325	33,178	601.14
Goltseye								27,935		27,935	5,414.80
White Perch	271,550								458	272,008	19,565.12
Mixed "Scrap" & Animal Food	49,500	621,308	35,842	178,556	76,384		8,061	81,863	1,750	1,053,264	6,448.01
TOTAL CATCH	2,015,218	25,381,013	945,823	3,017,662	734,989	213,993	2,681,586	7,938,014	582,114	43,510,352	
TOTAL VALUE	\$284,955.00	2,377,284.25	232,401.23	711,178.11	189,898.20	64,488.63	248,791.55	1,047,423.81	73,899.33		5,229,820.11



Thirty-five forestry officials from 30 countries spent a week last summer, studying Ontario's advanced methods of forest fire control. About 47 countries were involved in the studies, sponsored jointly by the Food and Agriculture Organization of the U.N. and the Canadian, Ontario and Quebec governments. Here, some of the delegates watch a demonstration of a portable tanker at Midhurst Forestry Station.



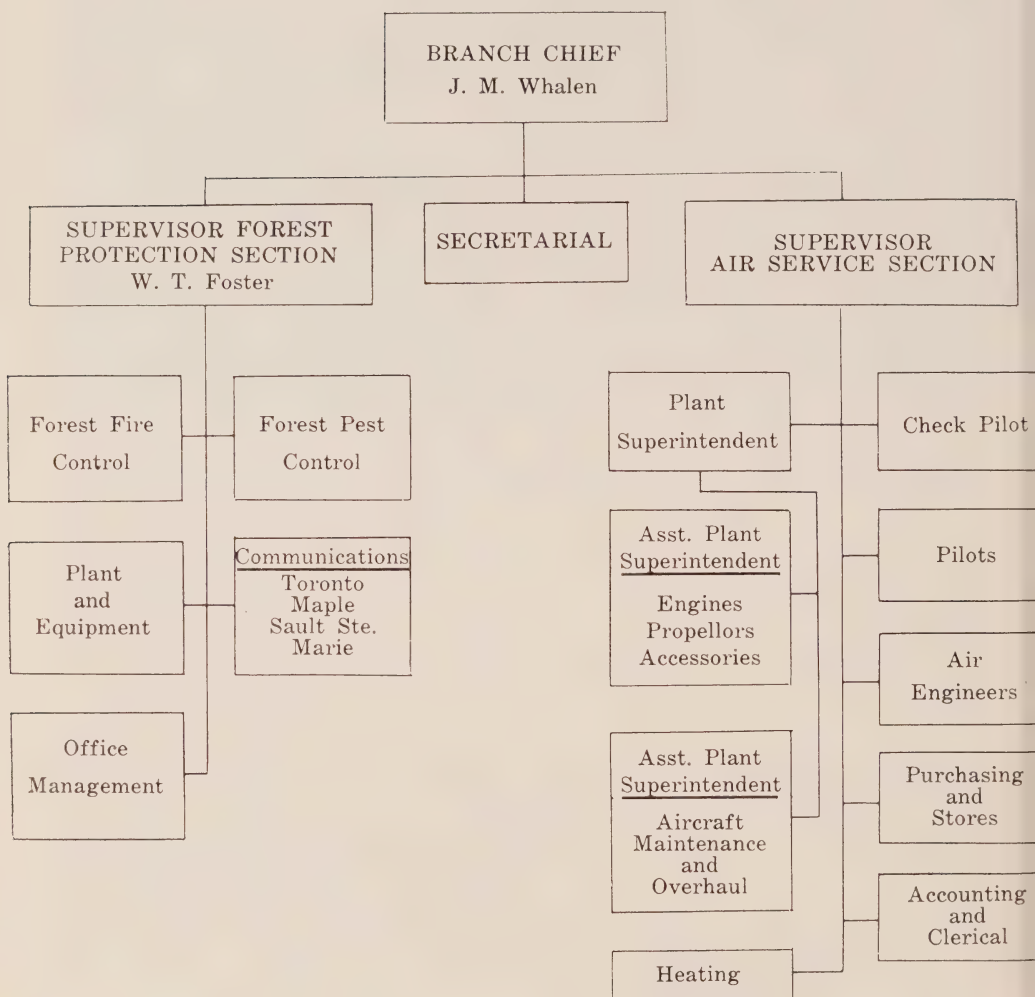
Turbo-Beaver aircraft being loaded at Bass Lake, Lake Simcoe District.

## FOREST PROTECTION BRANCH

THE Forest Protection Branch is comprised of two Sections: Forest Protection, with headquarters in Toronto, and Air Service, with headquarters in Sault Ste. Marie. The responsibilities and functions of the Branch are as follows:

1. Forest Fire Control Organization, staff distribution, fire district boundaries, fire warden system.
2. Fire Control Planning, preparation and implementation of fire control plans.
3. Fire Prevention, through removal of hazards, construction of fire guards, and travel, fire and work permits. Warnings to the public of existing and impending fire danger. Co-operation with Municipalities, Board of Transport Commissioners, Railways, Indian Affairs Branch, Forest Industries and other forest users in preventing, reporting and suppressing fires.
4. Detection of forest fires by a system of towers and aircraft patrols.
5. Training of staff, woods industry employees and other co-operators in fire suppression techniques.
6. The use of prescribed burning to eliminate hazards, and for various forest management purposes.
7. Forest fire suppression by co-ordinating movement of resources between regions as required and emergency arrangements.
8. Fire statistics and reports.
9. Radio communications for fire control and all other Department requirements.
10. Pest Control by prevention of damage to trees caused by insects, disease and small mammals on all lands under Department management.
11. Maintenance and operation of the aircraft fleet in compliance with Department of Transport Regulations and to provide for the utmost safety. Selection of all technical staff including pilots and engineers. Leasing and disposition of helicopters.
12. Plant and equipment programme for the Department including all buildings and improvement projects, major equipment including vehicles. Vehicle and building records, maintenance procedures, specifications, licensing and insurance. Equipment development.

# FOREST PROTECTION BRANCH





# FOREST PROTECTION SECTION

## Forest Fire Control

During the 1964 fire season 1,829 forest fires occurred, burning a total of 28,124 acres. The total number of fires was 30% above the average for the previous decade (1954 to 1963 inclusive).

Area burned was the fourth lowest on record. The three years with smaller acreages burned were 1952, 1959 and 1962 during which 12,421, 5,281 and 13,804 acres respectively, were destroyed by fire.

The highest occurrence period was May, June and July when 1,352 fires were reported. July recorded the highest fire incidence with 620 of the 1,829 total fires for the season.

### FIRE FREQUENCY BY CAUSE

Lightning was responsible for starting approximately 33% of all fires reported. This is 10% higher than the previous decade average of 23%.

Above average amount of rainfall, especially in the North Central and North Western Regions, resulted in below average burning conditions for most of the fire season.

### FOREST FIRE DETECTION

The visible area mapping program, to cover all lookout towers, started in 1963 and was continued by two field parties during 1964. Completion of this programme is expected in 1965.

Two types of maps are being produced — one showing area visible and not visible and one showing areas of double coverage (areas where cross-shots are possible), both of which are prepared on a district basis.

A complete reassessment of the present fire detection system is planned when the mapping has been completed. Studies are proposed, to explore the advisability of more extensive use of aircraft fire detection patrols.

New tower designs are being investigated with the possibility of their being used to replace old existing structures where fixed detection is still required.

Further field tests with proto-type infra-red scanning equipment were carried out during 1964 and field tests with an operational scanner will proceed during 1965.

Additional fire finders (designed by the federal penitentiary staff) have been installed as part of a program to up-date lookout tower equipment.

### PROSECUTIONS AND CONVICTIONS

A total of 22 charges were laid under the Forest Fires Prevention Act and Regulations resulting in 22 convictions.

### FIRE PREVENTION

Educational programmes aimed toward making the general public more aware of fire prevention were continued during 1964. In particular, special tours were arranged with railway prevention cars and meetings were held with railway employees across the province.

Normal Department prevention programmes were continued and extended using radio, television and newspaper coverage throughout the 1964 fire season.

The use of rangers equipped with special fire prevention vehicles was continued. The rangers carried out an effective programme by visiting schools, attending meetings, distributing literature and carrying out inspections of equipment or conditions that create fire hazards.

A new publication "Our Forests Are Burning" was completed in 1964 and will be distributed during 1965. This publication is particularly suited for the elementary school fire prevention educational programme.

## PREScribed BURNING

A total of four prescribed burn projects were carried out, summarized as follows:

Blueberry production .....	600 acres
Seed bed preparation .....	155 acres
Regeneration .....	30 acres

The number of burns carried out in 1964 was lower than in the previous year, mainly due to unsuitable weather.

Slash burning for hazard reduction is also being investigated and burns with this objective in mind are planned for 1965.

## TRAINING

The provincial fire control training programme continued in 1964 with three courses being conducted. Sixty instructors were trained during the year. One hundred and sixty candidates have now completed the four-week instructor training course. For the first time, a number of out-of-the-province students and Industry Personnel attended the courses.

District training courses were carried out following the standard training manual. The majority of these were of two weeks' duration.

Indian training was expanded in 1964 with close to 500 Indians completing a five to 10-day course. Indians who receive training may be employed in special fire crews during high fire danger periods. This programme has resulted in a strengthening of fire control operations and at the same time improved Indian employment opportunities.

Junior Rangers received formal fire training and worked a total of 621 man days on fires.

## FIRE SUPPRESSION EQUIPMENT

Equipment development and testing was continued at the Maple Research Station during the past year. The work is carried out by the Mechanical Section of the Research Branch.

A proto-type propane hose drying unit was constructed, capable of drying 1200 feet of 1½ inch unlined hose per hour. The dryer will undergo field tests at Sudbury during 1965.

A new air-cooled motor pump was tested and found to meet both performance and service-free running time standards set by the Forest Protection Branch.

Several additives, designed to extend the service-free running time on air cooled motors, were tested and found to be of little or no benefit.

Hose tests were carried out in Cochrane District to ensure that hose purchased met specifications. At the same time, current hose specifications were reviewed to see that they met field requirements. Limited tests were also carried out with a new lined percolating hose which showed promise. It has both the

low friction loss characteristics of lined hose and the sweating or fireproofing qualities of unlined hose.

All Otter aircraft were equipped with a 200-gallon water dropping tank located under the fuselage. A similar tank is presently being developed for Beaver aircraft.

## Forest Pest Control

Forest pest problems in Ontario, which involve chiefly damaging insects and diseases of trees, are shared co-operatively with the Canada Department of Forestry. The Province is responsible for initiating and conducting all control operations on lands under its jurisdiction, and the federal government conducts the surveys and research work on which control decisions are based.

### SURVEYS

Each year this Department participates in the Ontario portion of the Canada-wide Forest Insect and Disease Survey of the federal Department of Forestry. Detailed information concerning the occurrence and distribution of specific insects and diseases is contained in the Annual Report of the Forest Insect and Disease Survey.

The spruce budworm infestation in northwestern Ontario declined in 1964 to the point where defoliation could not be detected from the air. However, sampling from the ground did reveal some lingering budworm activity. In southern Ontario, the only spruce budworm infestation to cause heavy defoliation was in the white spruce plantation in the Uxbridge Forest, which has supported a fluctuating budworm population for many years.

The major insect occurring in spectacular epidemic proportions and attracting most attention was the forest tent caterpillar. The infestation in northwestern Ontario increased to Lake Nipigon and south through the Nipigon valley to Black Bay Peninsula. In addition there are isolated patches of activity of this insect throughout northern Ontario.

The geographic distribution of Dutch elm disease in Ontario remained about the same in 1964. The disease occurs throughout southern Ontario and extends north to a line from the mouth of the French River, curving north to include Lake Nipissing and east to Mattawa. Within this area, the disease continues to intensify and kill more elms.

### CONTROL

Efforts to control forest pest problems are conducted in natural stands as well as in artificially established plantations. For the past few years, the forest insect causing greatest economic damage has been the white pine weevil. Control methods during 1964 were confined to spraying with knapsack sprayers, and hand clipping and burning infested leading shoots. A total of 2,800 acres of young white pines were treated.

Approximately 2,400 acres of plantations were sprayed from the ground for control of sawflies. These were principally the red-headed pine sawfly and the European pine sawfly, but included also small acreages of yellow-headed spruce sawfly and the larch sawfly.

White grubs usually threaten the survival of newly planted trees on old, sod-covered agricultural lands. Aldrin treatments at time of planting are necessary and in 1964 about 750 acres were treated. On these sites, mice also often cause



high losses by feeding on the bark of seedlings during the winter. Approximately 650 acres were treated with zinc phosphide in area to almost 29,000 square miles in 1964, which includes all of the Kenora District, the northern one-half of the Fort Frances District, the southern part of the Sioux Lookout District, and the western fringe of the Port Arthur District. This insect feeds mainly on poplar in the north, and on several species of hardwoods in the south. There are several scattered areas infested by the caterpillar throughout central and eastern Ontario, totalling about 1,200 square miles. Chief among these are areas near Sault Ste. Marie, west and southwest of Lake Nipissing, the Muskoka Lakes, and the eastern portion of the Pembroke District.

Larch sawfly populations across northern Ontario remained very low again in 1964. However, in southern Ontario damage by this insect was medium to heavy in several stands of tamarack and plantations of European larch.

The European pine sawfly, an insect native to Europe which entered Ontario via Windsor about 1940, continues to spread eastward in southern Ontario. Although the eastern boundary of where the insect occurs did not advance materially in 1964, and remains roughly from Midland—Barrie—Port Perry and southeast to Lake Ontario just east of Newcastle, there was a marked increase in damage throughout southwestern Ontario. This sawfly feeds principally on Scots and red pines.

The birch skeletonizer causes late-summer browning of white birch leaves which, while spectacular in appearance, does not affect the trees adversely. The infestation of this insect in southern and central Ontario virtually disappeared in 1964, but the shift to the north continued, resulting in a wide swath of severe browning of birch from Larder and Abitibi Lakes westward for control of mice.

The major tree-killing disease in the forests of Ontario is the blister rust of white pine. A substantial control programme, which is tied in to the broader intensive management of white pine, has been in progress for several years. The disease is controlled by using the herbicide 2, 4, 5-T to kill the obligate alternate host plants, wild currants and gooseberries, in the immediate vicinity of the pines. In 1964, 7,500 acres of high-value young white pine stands were protected against the blister rust in parts of the Sault Ste. Marie, North Bay, Pembroke, Tweed, Kemptville and Lake Huron Districts.

The fomes root rot, a killing disease with a potential for causing high losses in both young and older trees, is causing concern in several areas of the continent. The principal outbreak centres in Ontario are in red-pine plantations at St. Williams in the Lake Erie District, and at the Orr Lake Forest in the Lake Simcoe District. A recommended method of control is to apply sodium nitrate to all freshly cut stumps as soon as trees are cut in plantations. This procedure was conducted in 1964 for the second consecutive year and covered 600 acres of thinning operations.

## Radio Communications

A small increase in the number of radiograms transmitted over the Radio system was recorded for 1964. A total of 91,803 messages were sent with a word count of 2,645,931. Additionally, much spontaneous unrecorded communications to and from aircraft, vehicles and portable units took place.

Three more VHF radiotelephone stations were added to the System, being located at Remi Lake Park, Bass Lake Park and Point Farms Park.

Thirty-three Automatic Direction Finder installations were purchased and



installed as aids to navigation in all remaining aircraft in the Department's fleet not previously installed.

Other major equipment purchases consisted of:—

80 Transistorized lookout tower transreceivers to retire obsolete equipment in four administrative districts.

32 Six watt VHF radiotelephones for use in Ranger Headquarters throughout the Province.

5 VHF mobile radiotelephones.

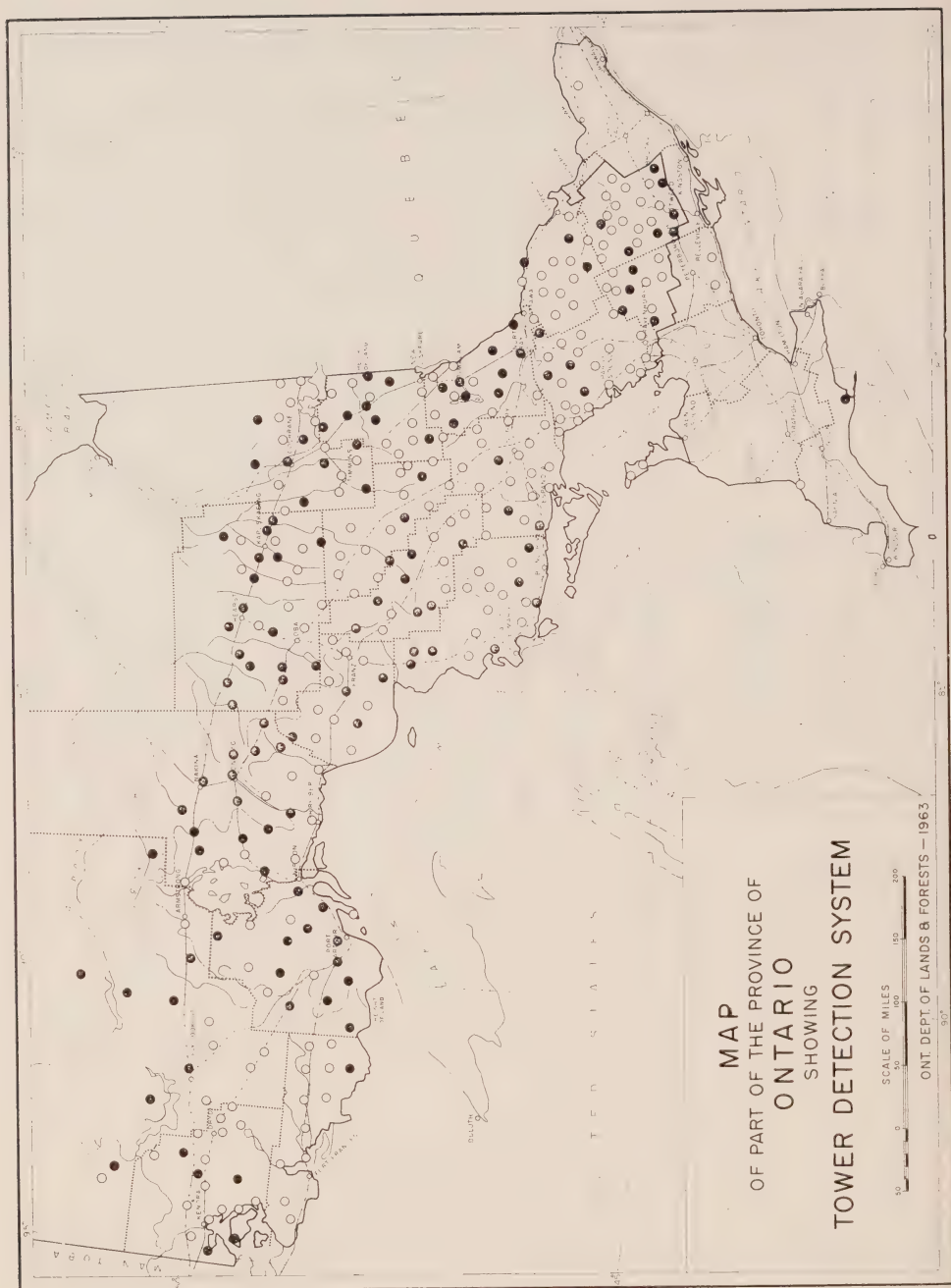
100 VHF Walkie Talkie sets constituting a Provincial Cache to meet emergent fire and other conditions.

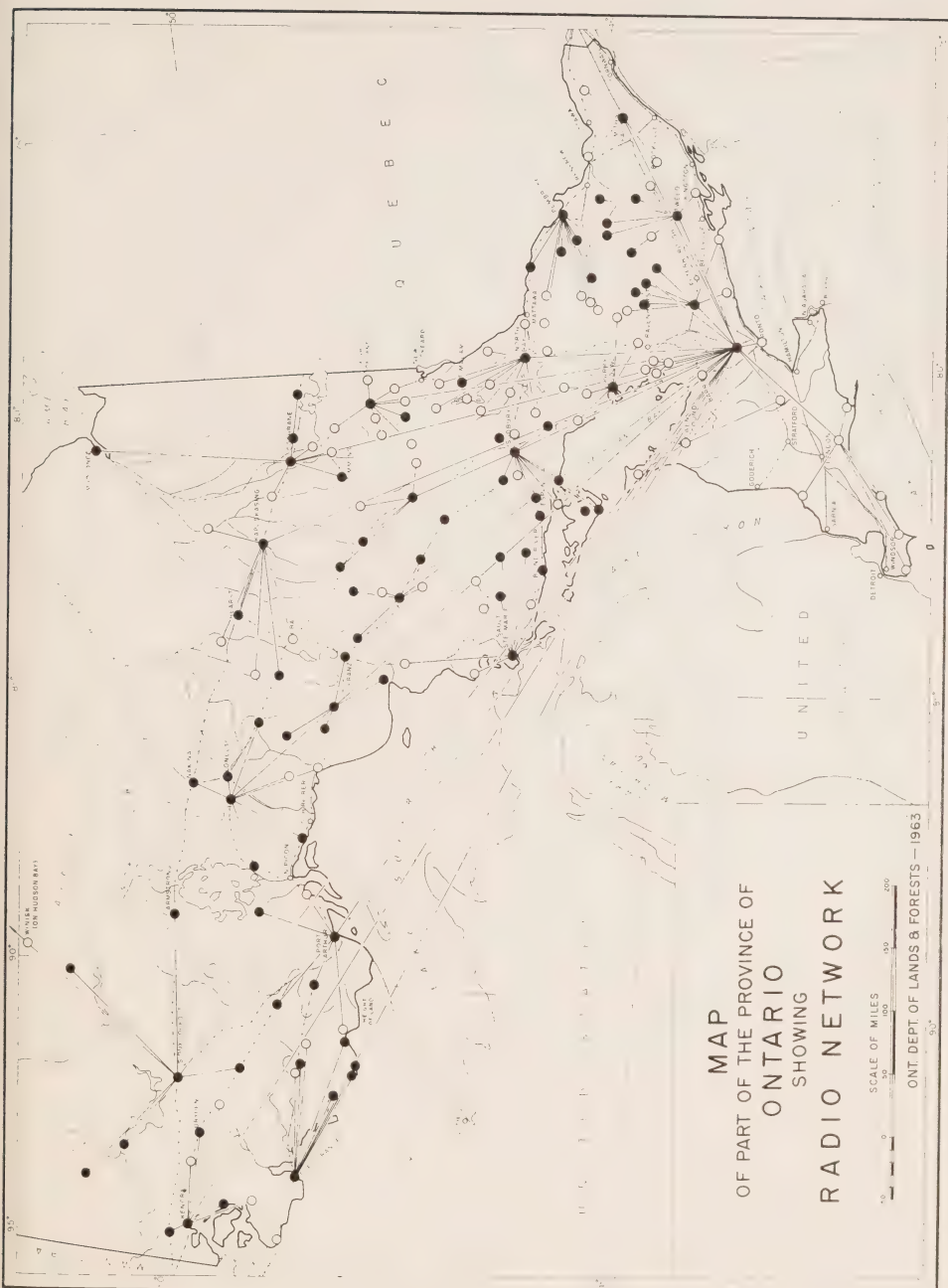
100 Lightweight VHF antennas for use on the fire line to extend portable radio equipment range.

Nineteen VHF portable dry battery operated six channel radiotelephones were constructed by staff technicians to provide emergency fire line communications from other than department aircraft when they are on hire or contract.

The following types and quantities of radio equipment constituted the 1964 inventory:—

Tower Radiotelephones (V.H.F.) .....	352
Mobile Radiotelephones (H.F. and V.H.F.) .....	544
Marine Radiotelephones (H.F.) .....	15
Portable Radiotelephones (1½ watt H.F.) .....	277
Portable Radiotelephones (2½ watt H.F.) .....	111
Portable Walkie Talkie Transreceivers (V.H.F.) .....	339
Fire Base Portable Radiotelephones (2 watt V.H.F.) .....	125
Fire Base Portable Radiotelephones (35 watt H.F.) .....	94
30 Watt Ground Radio Stations (H.F.) .....	105
75 Watt Ground Radio Stations (H.F.) .....	2
100 Watt Ground Radio Stations (H.F.) .....	3
150 Watt Ground Radio Stations (H.F.) .....	8
300 Watt Ground Radio Stations (H.F.) .....	2
500 Watt Ground Radio Stations (H.F.) .....	8
6 Watt Ground Radio Stations (V.H.F.) .....	24
15/25 Watt Ground Radio Stations (V.H.F.) .....	89
50 Watt Ground Radio Stations (V.H.F.) .....	77
(includes V.H.F. attachments for 30 watt ground stations above)	
Aircraft Radio Installations (3 systems in each aircraft) .....	44
Helicopter Radiotelephones (H.F./V.H.F.) .....	8
Aircraft Ground Hailers .....	20
<hr/>	
Total .....	2247





# NUMBER OF FOREST FIRES AND AREA BURNED BY DISTRICTS

District	1960		1961		1962		1963		1964	
	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres
Sioux Lookout	148	20,303	201	1,130,814	59	1,300	92	14,665	113	10,066
Kenora	103	1,657	250	34,155	50	260	171	836	120	1,767
Fort Frances	81	1,231	95	5,233	10	3	62	2,390	40	2,804
Port Arthur	77	450	92	8,887	46	106	92	2,564	99	556
Geraldton	73	5,772	55	308	31	529	70	944	24	1,220
Kapuskasing	17	474	12	42	30	1,566	53	1,019	24	93
Cochrane	16	485	18	777	26	1,230	41	1,115	35	2,053
Swastika	4	69	23	266	41	790	46	885	23	304
Chapleau	15	30	7	361	23	26	26	28	10	366
Gogama	11	9	13	2	44	224	20	34	14	28
Sault Ste. Marie	28	18	75	347	80	384	121	638	95	413
Sudbury	53	65	115	666	332	4,459	382	16,586	305	1,943
White River	30	19	41	50	22	78	40	10,577	16	53
North Bay	18	12	38	128	141	1,241	155	1,367	110	511
Parry Sound	80	70	77	158	258	349	190	993	268	740
Pembroke	54	62	38	66	128	460	102	701	193	4,512
Tweed	89	521	100	2,341	106	560	120	556	167	316
Kemptville	—	—	—	—	—	—	4	5	16	157
Lindsay	49	136	50	122	57	200	78	209	120	132
Lake Huron	1	—	3	3	10	14	4	4	9	35
Lake Simcoe	9	3	2	2	27	25	16	22	28	55
Totals	956	31,386	1,305	1,184,728	1,521	13,804	1,885	56,138	1,829	28,124

# NUMBER OF FOREST FIRES AND AREA BURNED OVER BY MONTHS

Months	1960		1961		1962		1963		1964	
	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres
March	—	—	—	—	—	—	3	10	—	—
April	21	119	89	1,131	135	1,302	311	3,321	164	4,212
May	145	2,361	316	3,739	249	1,715	227	13,593	395	8,630
June	79	387	311	1,152,111	248	4,178	266	27,030	337	6,980
July	326	27,515	211	17,706	466	2,686	550	7,113	620	7,478
August	190	275	251	8,392	296	3,618	118	125	141	101
September	87	135	32	46	99	200	86	108	47	21
October	91	539	64	66	23	93	290	3,490	65	252
November	17	55	31	1,537	5	12	34	1,348	60	450
Totals	956	31,386	1,305	1,184,728	1,521	13,804	1,885	56,138	1,829	28,124

# CLASSIFICATION OF FOREST FIRES BY SIZE

Size	No. 1960	No. 1961	No. 1962	No. 1963	No. 1964
¼ acre and under .....	416	502	670	693	845
Over ¼ to 10 acres .....	448	639	744	955	829
Over 10 to 100 acres .....	59	112	84	198	122
Over 100 to 500 acres .....	23	12	17	30	22
Over 500 acres .....	10	40	6	9	11
Totals .....	956	1,305	1,521	1,885	1,829



# FOREST FIRE SUMMARY

Year	Crown Acres	Private Acres	Total Acres	Total No. of Fires	Average Fire Size (Acres)
1925	132,481	57,062	189,543	1,149	165
1926	65,888	22,486	88,374	1,110	80
1927	22,772	12,970	35,742	924	39
1928	96,436	3,947	100,383	536	187
1929	608,750	16,893	625,643	1,550	404
1930	357,531	354,278	711,809	1,402	508
1931	105,866	32,421	138,287	1,851	75
1932	626,555	52,466	679,021	2,073	328
1933	325,034	24,924	349,958	1,919	182
1934	160,348	38,285	198,633	1,568	127
1935	183,179	67,483	250,662	1,309	191
1936	1,153,876	110,557	1,264,433	2,264	558
1937	201,887	22,859	224,746	1,453	155
1938	96,168	42,077	138,245	1,292	107
1939	26,089	3,009	29,098	961	30
1940	100,990	20,624	121,614	1,014	120
1941	271,793	394,754	666,547	1,265	527
1942	77,709	36,007	113,716	1,224	93
1943	33,465	19,352	52,817	624	85
1944	73,228	95,663	168,891	1,137	149
1945	17,997	30,513	48,510	966	50
1946	44,656	32,113	76,769	1,739	44
1947	38,093	45,939	84,032	1,393	60
1948	854,778	162,611	1,017,389	2,036	500
1949	40,593	19,472	60,065	1,834	33
1950	13,203	23,577	36,780	985	37
1951	96,662	4,581	101,243	904	112
1952	7,264	5,157	12,421	1,095	11
1953	44,519	14,290	58,809	1,520	39
1954	36,115	18,578	54,693	881	62
1955	370,948	25,475	396,423	2,252	176
1956	221,822	4,390	226,212	1,017	222
1957	24,250	22,401	46,651	1,671	28
1958	25,544	11,108	36,652	1,558	24
1959	2,580	2,701	5,281	1,029	5
1960	29,190	2,196	31,386	956	33
1961	1,180,900	3,828	1,184,728	1,305	908
1962	7,583	6,221	13,804	1,521	9
1963	40,692	15,446	56,138	1,885	30
1964	22,463	5,661	28,124	1,829	15

## GENERAL CAUSES OF FOREST FIRES

(Number of Fires — 1964)

	Fires	Acres
Lightning .....	591	15,198
Industrial (Logging 19) .....	75	757
Recreation .....	601	2,275
Resident .....	244	2,164
Railways .....	75	963
Incendiary .....	36	1,792
Miscellaneous .....	198	4,962
Unknown .....	9	13
Totals .....	1,829	28,124

# CAUSES OF FOREST FIRES

(Number of Fires — 1964)

By Source of Ignition	Fires	By Responsible Group	Fires
Smoking Material	476	Fisherman	221
Hot Box	1	Hunter	81
Brake Shoe	8	Canoeist	16
Steam Locomotive	—	Picknicker	20
Diesel Locomotive	14	Berry Picker	50
Fusee	8	Camper	58
Tie Burning	3	Private Cottager	63
Power Saw	2	Commercial Resort Owner	11
Mechanical Equipment	13	Guided Party	4
Spark from Burner	3	Children	121
Sawdust Pile Burning	1	Youth Group	15
Right-of-way Burning	17	Car Passenger	92
Prescribed Burning	4	Train Passenger	26
Playing with Matches	110	Indian (on Reserve only)	13
Sparks from Chimney	9	Timber Cruiser	—
Garbage Dump Burn	33	Logging Operation Woods Industry	19
Rubbish Burning	60	Land Survey Party	1
Brush Burning	47	Trapper	1
Grass Burning	50	Prospector	1
Burning Bulldozed Piles	4	Mining Employee	1
Camp Fires	246	Pipeline Employee	1
Power Line (short circuit)	29	Hydro Employee	37
Structural Fire	26	Highway or Road Employee	6
Explosives	—	Municipal Employee	14
Fireworks	18	Telephone Company Employee	1
Miscellaneous (Known)	—	R.R. Train Crew	31
Unknown	51	R.R. Section Crew	21
Lightning	591	R.R. Work Crew	5
Dumped live ashes or coals	5	Other Industrial Employee	11
	1,829	Farmer	45
		Resident Rural (not Farmer)	97
		Resident Urban	12
		Military	2
		Unknown	85
		Hiker	53
		Lightning	591
		L. & F. Employee	1
		Other Provincial Govt. Employee	1
		Federal Govt. Employee	1
			1,829

## MEANS OF FIRE DETECTION

	1963	1964
Lands and Forests Towers .....	620	611
Lands and Forests Aircraft .....	206	178
Commercial Aircraft .....	97	55
Private Aircraft .....	19	34
Lands and Forests Personnel .....	92	116
Other Provincial Government Employees .....	27	41
Public .....	824	794
Total Fires .....	1,885	1,829

## NUMBER OF FIRE PERMITS ISSUED

1964	1963	1962	1961	1960
23,210	23,523	22,298	20,956	18,616

## NUMBER OF TRAVEL PERMITS ISSUED

	1964	1963	1962	1961	1960
Permits .....	86,567	111,960	108,771	108,108	94,634
Persons	300,354	271,799	366,985	393,510	332,471

## MAJOR CAPITAL IMPROVEMENTS FOR FUTURE CONSTRUCTION

### District Headquarters

Sioux Lookout, Kenora, North Bay, Parry Sound, White River, Chapleau, Sudbury, Tweed.

### Chief Ranger Headquarters

Dryden, Kenora, Pays Plat, Terrace Bay, Red Lake, Ignace, Bancroft Warehouse.

### Fish Hatcheries

Balsam Lake—North Bay.

Experimental Hatchery—Sault Ste. Marie.

New Hatchery—S.E. Region.

Deer Lake—Lindsay.

### Research Stations

Lakehead.

Consolidated Station—Algonquin Park.

# NUMBER OF WORK PERMITS ISSUED — 1964

District	Mining Operations		Forest Operations		Miscellaneous Operations		TOTALS	
	Permits	Men	Permits	Men	Permits	Men	Permits	Men
Sioux Lookout.....	30	134	205	1,011	24	348	259	1,493
Kenora.....	3	13	243	752	84	552	330	1,317
Fort Frances.....	7	28	214	1,703	35	305	256	2,036
Port Arthur.....	17	62	145	2,819	74	272	236	3,153
Geraldton.....	38	198	50	2,055	44	508	132	2,761
Cochrane.....	226	1,334	264	3,305	40	1,104	530	5,743
Kapuskasing.....	15	93	128	3,708	56	1,235	199	5,036
White River.....	25	112	13	494	54	373	92	979
Swastika.....	145	714	126	771	30	218	301	1,703
Gogama.....	47	221	18	280	7	73	72	574
Chapleau.....	9	41	59	1,406	23	330	91	1,777
Sault Ste. Marie.....	5	51	93	1,056	77	988	175	2,095
North Bay.....	33	118	307	2,305	51	40	391	2,463
Sudbury.....	42	271	64	563	48	259	154	1,093
Parry Sound.....	—	—	194	989	84	784	278	1,773
Pembroke.....	3	7	176	1,545	40	333	219	1,885
Kemptville.....	2	10	15	42	5	39	22	91
Tweed.....	15	46	290	1,152	49	700	354	1,898
Lindsay.....	4	72	33	278	44	280	81	630
Lake Simcoe.....	—	—	—	—	6	592	6	592
Lake Huron.....	—	—	13	27	2	17	15	44
Totals.....	666	3,525	2,650	26,261	877	9,350	4,193	39,136



# REPORT OF MAJOR EQUIPMENT (As of March 31, 1965)

LOCATIONS	Portable Power	Pumps	Hand	Fire Hose	(00's ft.)	Blankets	Tents	Sleeping Bags	Binocu- lars	Canoes	Beats Not Motor	In- Board	Out- Board Motors	Motor Vehicles	Trailers	Tractors	Rly. Motor Cars	V <sup>a</sup>	S <sup>b</sup>	B <sup>c</sup>
<b>DISTRICTS</b>																				
Avlner .....	10		107	922	47	—	—	6	34	2	22	6	18	53	19	14	—	—	—	—
Chapleau .....	40		211	1,266	2,679	123	123	69	21	29	12	—	26	30	9	5	—	—	—	—
Cochrane .....	58		419	1,669	2,330	142	142	83	37	43	15	4	45	35	11	6	7	—	2	—
Fort Frances .....	38		111	1,076	1,241	98	98	89	24	34	28	2	37	25	11	4	—	—	3	—
Geraldton .....	77		452	2,053	2,592	196	196	37	42	48	19	2	40	41	8	7	4	—	—	—
Gogama .....	35		216	1,061	1,477	73	73	40	21	33	12	—	25	24	8	7	5	3	—	—
Hesperkasing .....	22		462	1,307	—	3	—	7	24	1	17	—	17	43	25	12	—	—	1	—
Kapuskasing .....	14		107	1,335	1,545	114	114	56	34	48	9	—	37	37	11	6	6	—	—	—
Kenora .....	67		312	1,369	25	5	5	13	18	2	28	1	20	29	11	14	—	—	—	—
Lindsay .....	48		395	1,579	1,556	120	120	45	27	36	30	4	34	48	8	8	—	—	2	—
Maple .....	30		266	1,145	657	42	42	41	29	25	42	—	44	55	28	16	—	—	4	3
North Bay .....	46		326	1,590	286	17	8	8	40	66	42	—	35	61	22	30	—	—	5	—
Parry Sound .....	43		280	1,081	1,855	126	126	99	40	8	28	—	48	47	7	8	—	—	2	—
Pembroke .....	40		297	1,174	801	61	61	88	36	41	44	2	49	46	16	5	—	1	4	—
Port Arthur .....	52		388	1,106	2,149	111	111	112	23	62	39	—	50	52	14	10	4	—	1	—
Sault Ste. Marie .....	71		622	2,085	2,414	186	186	122	37	55	22	1	43	48	12	9	2	1	4	1
Sioux Lookout .....	71		450	2,474	3,508	194	194	75	26	54	23	1	34	59	18	12	3	—	—	—
Sudbury .....	58		437	2,206	2,847	208	208	94	21	156	24	1	67	31	7	3	—	—	4	—
Swastika .....	26		252	3,511	2,116	142	142	93	40	55	29	7	50	47	12	7	1	2	2	2
Tweed .....	43		249	1,277	1,672	88	88	108	25	33	28	—	24	35	20	7	—	—	—	—
White River .....	37		269	1,514	57	94	94	62	40	15	50	1	51	45	23	4	1	—	—	—
White River .....				1,123	1,459			43	17	54	13	—	28	26	10	4	2	—	—	—
<b>REGIONS</b>																				
Central .....	28		268	881	1,566	35	35	87	—	1	1	—	2	1	—	—	—	—	—	—
South-Central .....	—		—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—
Western .....	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mid-Western .....	43		245	160	1,296	100	100	3	—	—	—	—	—	—	—	—	—	—	—	—
South-Eastern .....	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Northern .....	14		515	1,031	1,090	52	52	2	1	—	—	—	—	1	—	—	—	—	—	—
South-Western .....	—		—	26	—	1	1	—	—	—	—	—	—	5	1	3	—	—	—	—
<b>OTHERS</b>																				
Ranger School .....	11		30	145	667	6	6	1	4	22	6	—	5	4	1	3	—	—	—	—
Air Service .....	—		—	—	—	—	—	118	—	1	2	—	5	2	—	—	—	—	—	—
Head Office** .....	15		—	6	98	108	108	275	67	38	32	—	50	53	13	9	—	—	—	—
<b>Total</b> .....	1,053		7,865	32,122	38,071	2,502	2,502	1,876	718	816	652	33	884	979	325	216	35	13	40	6

\*V—Vehicles  
S—Snow Vehicles  
B—Barges  
\*\*Includes Research Branch

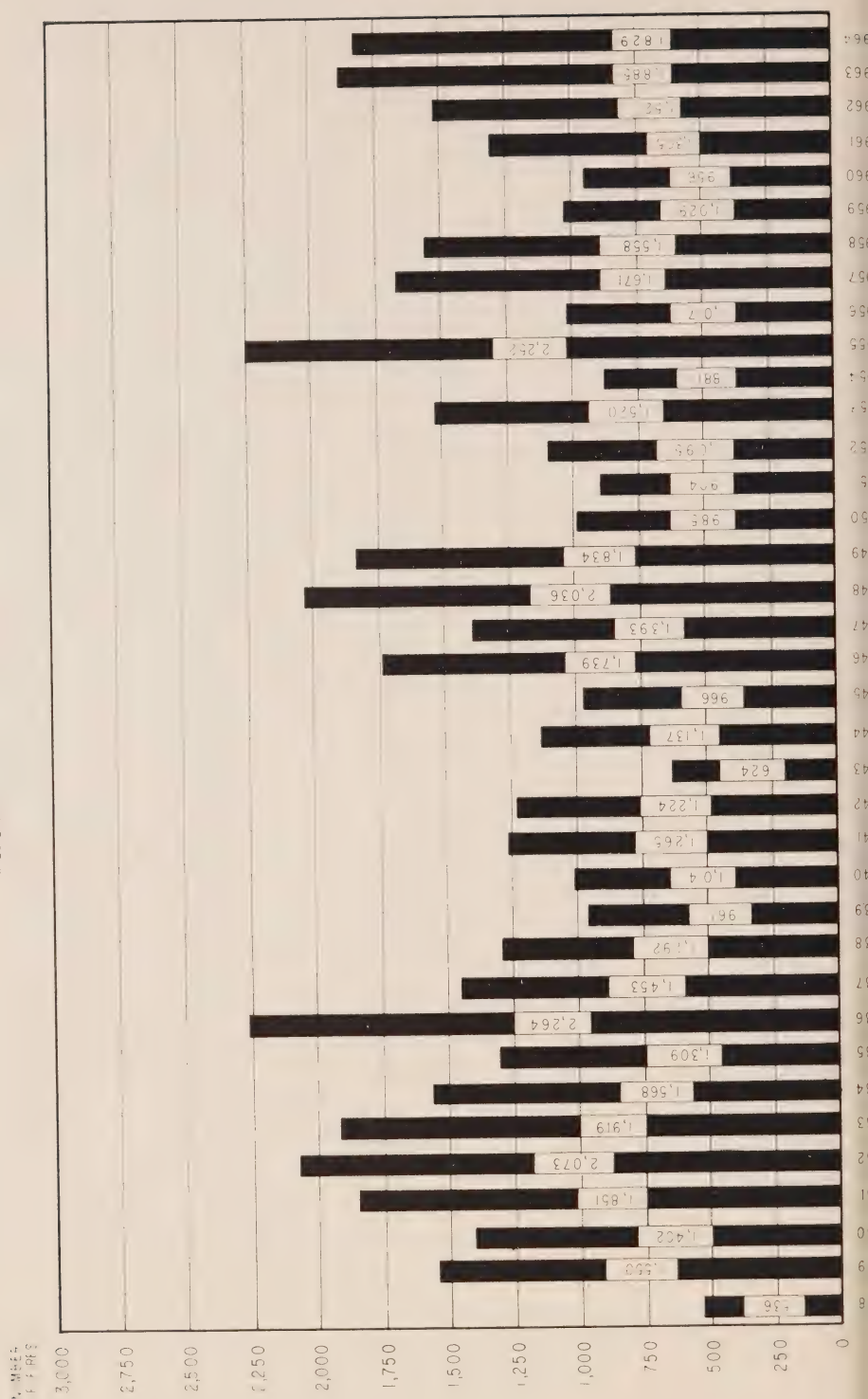
## STATEMENT OF FIRE

District	Merchantable Forest	
	Cu. Ft.	
	Crown	Private
Sioux Lookout .....	7,627,588	260,270
Kenora .....	932,915	366
Fort Frances .....	38,458	409
Port Arthur .....	365,187	—
Geraldton .....	569,415	—
Cochrane .....	25,000	425
Kapuskasing .....	85	—
White River .....	1,000	1,200
Swastika .....	1,575	425
Gogama .....	2,550	—
Chapleau .....	2,000	—
Sault Ste. Marie .....	12,750	—
North Bay .....	15,440	4,060
Sudbury .....	22,469	1,578
Parry Sound .....	10,015	300
Pembroke .....	387,572	128
Kemptville .....	2,762	128
Tweed .....	13,904	3,720
Lindsay .....	20,065	4,790
Lake Simcoe .....	850	1,020
Lake Huron .....	—	—
TOTALS .....	10,051,600	278,780

# DAMAGE TABLE, 1964

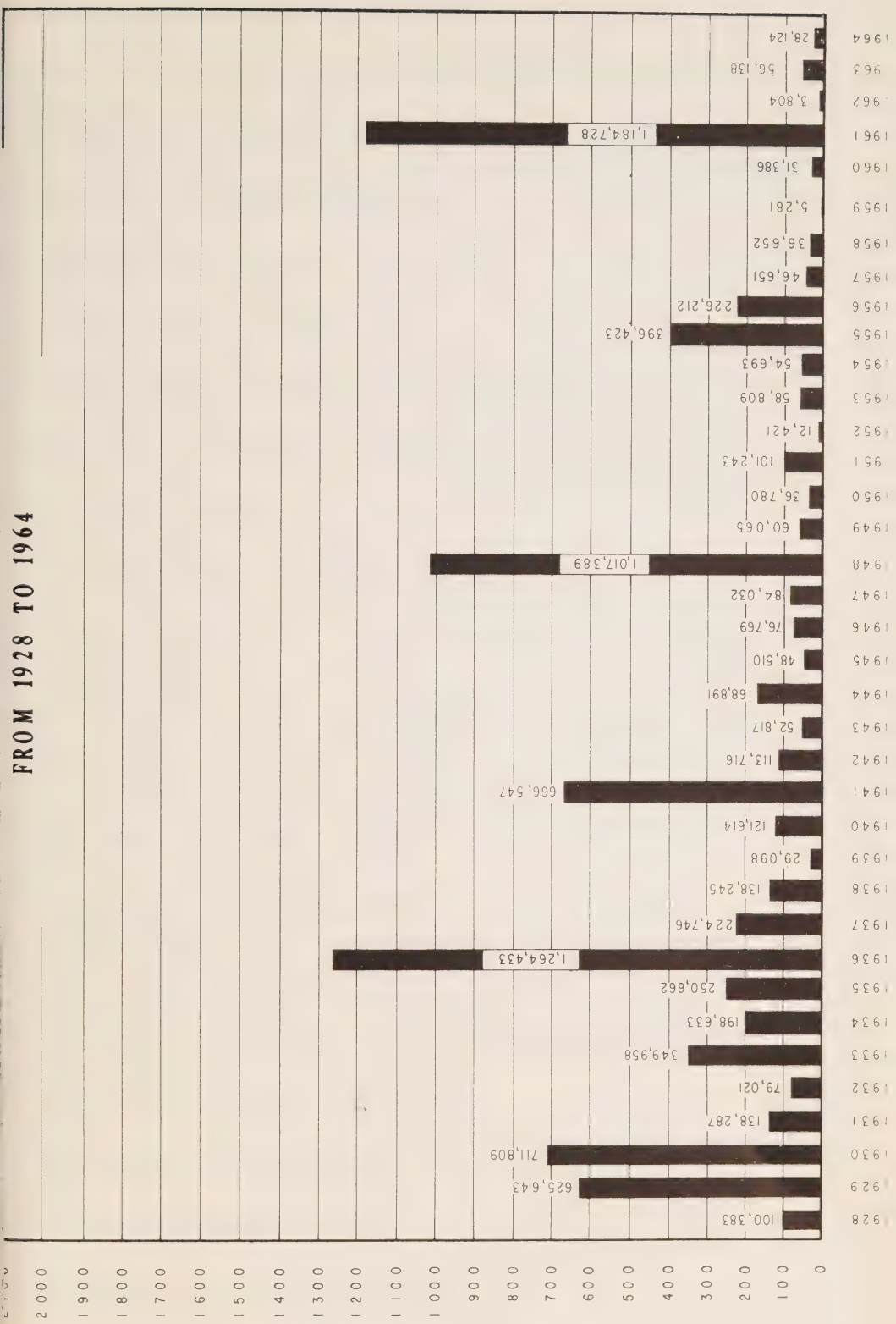
	Immature	Non-Forest	Totals	
\$	\$	\$	Cu. Ft.	\$
259,234.23	57,006.25	—	7,887,858	316,240.48
26,988.00	11,881.00	—	933,251	38,869.00
1,757.48	331.25	60.00	38,867	2,148.73
25,022.81	118.75	3,700.00	365,187	28,841.56
17,636.95	306.25	1,500.00	569,415	19,443.20
1,017.10	4,425.00	—	25,425	5,442.10
3.40	—	950.00	85	953.40
80.00	125.00	—	2,200	205.00
57.95	6,500.00	—	2,000	6,557.95
99.00	125.00	—	2,550	224.00
4.70	—	—	2,000	4.70
765.00	5,160.25	—	12,750	5,925.25
743.90	6,696.50	500.00	19,500	7,940.40
1,031.64	22,616.50	4,000.00	24,047	27,648.14
1,310.35	23,449.58	1,047.00	10,315	25,806.93
13,385.26	5,130.62	2,000.00	287,700	20,515.88
214.16	50.50	500.00	2,882	764.66
1,149.49	3,974.75	434.70	17,624	5,558.94
606.75	856.50	5,000.00	24,858	6,463.25
22.00	156.22	—	1,870	178.22
—	256.25	100.00	—	356.25
351,130.17	149,166.17	19,791.70	10,330,384	520,088.04

# FOREST FIRES IN ONTARIO FROM 1928 TO 1964



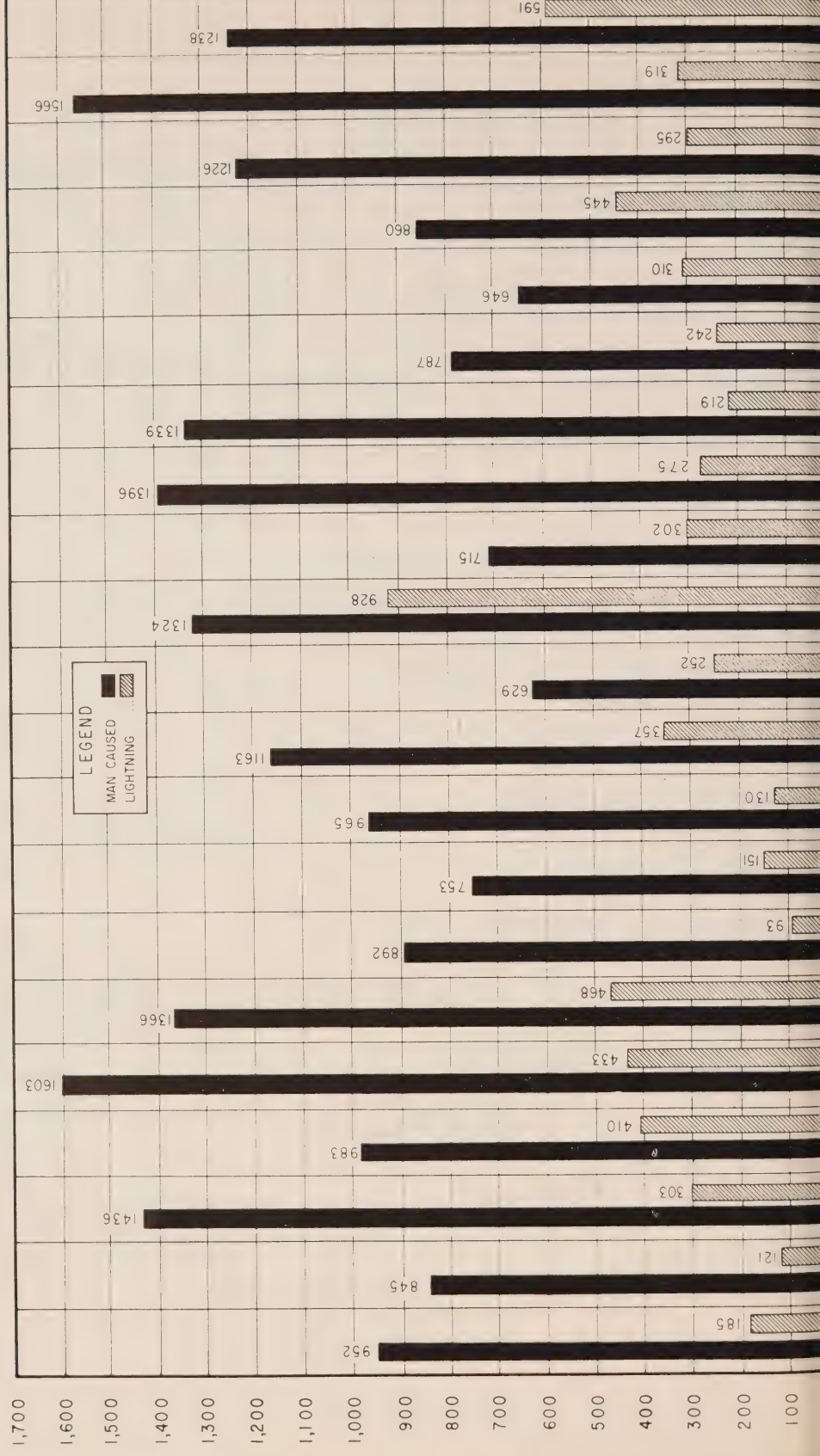


FROM 1928 TO 1964



# NUMBER OF FIRES - MAN CAUSED AND LIGHTNING YEARS 1944 - 1964

NUMBER  
OF FIRES



# AIR SERVICE SECTION

1964-65

Modernization of the air fleet was commenced with the acquisition of two new DeHavilland Turbo-Beaver aircraft. Delivery of Turbo-Beaver CF-OEA was taken in January, 1965 and CF-OEB in February, 1965. These aircraft replace two Beaver aircraft CF-OBY and CF-OBZ of 1948 vintage, which were sold by public tender in October, 1964.

Flying operations were carried out from 28 bases during the fire season. Twelve of these bases provide year round services necessary in resource management work.

Five helicopters were again leased from May 1st to September 30th to provide transportation in fire control work in areas inaccessible to conventional aircraft.

Total flying time for the year was 13,247¼ hours. Total passengers carried, 35,077. Total loads carried, 10,868,394 pounds.

Seventeen mercy flights totalling 25:45 hours were carried out.

## ACCIDENTS RESULTING IN DAMAGES TO AIRCRAFT

Otter Aircraft CF-ODW suffered damage to the tail assembly and undercarriage while tied to base dock at Pembroke, during a heavy rainstorm with wind twisters on the evening of October 7, 1964. Damaged parts were replaced and the machine was flown to Sault Ste. Marie where an exhaustive examination was made and repairs effected.

Beaver Aircraft CF-OCP while tied to the dock at White River, sank in sixteen feet of water on the night of October 8, 1964, due to extreme and unusual weather conditions. There was a combination of rain and snow accompanied by gale force winds with temperatures well below freezing. The aircraft was raised, dismantled, and shipped by truck to Sault Ste. Marie hangar. No serious damage occurred. The propeller, engine and airframe were thoroughly checked and overhauled.

Beaver Aircraft CF-OCH piloted by U. W. Fiskar was extensively damaged after landing at Smoke Lake on January 11, 1965. Glare ice conditions covered by light snow made it impossible to control movement of aircraft which crashed into rocky shoreline, buckling port wing and doing severe damage to parts of the fuselage and starboard skis. This aircraft will be completely rebuilt and overhauled at the Air Service Hangar, Sault Ste. Marie.

Table 1

## OPERATING BASES — 1964-65

Base	Type of Aircraft
* Algonquin Park	Beaver
Red Lake	Beaver
* Kenora	Beaver and Otter
* Fort Frances	Beaver
Nym Lake	Beaver
* Sioux Lookout	Beaver and Otter
Ignace	Beaver
* Port Arthur	Beaver and Otter
Caribou Lake	Beaver
Pays Plat	Beaver
Twin Lakes (Nakina)	Beaver
* Geraldton	Otter
Pickle Lake	Otter
White River	Beaver (2)
* Sault Ste. Marie	Beaver and Otter
* Chapleau	Beaver
* Gogama	Beaver
South Porcupine	Otter
Temagami	Beaver
Kenogami	Beaver
Remi Lake	Beaver
Carey Lake	Beaver
* Sudbury	Beaver and Otter
Parry Sound	Beaver
* Pembroke	Otter
Lauson Lake	Beaver
Tweed	Beaver
* Toronto	Widgeon and Beaver (2)
* — Denotes year-round bases	



Table II

## TRANSPORT AIRCRAFT — Effective Loads Carried —1964-65

Aircraft	Hours Flown	Pounds	Effective Loads	
BEAVER				
CF-OBS	283:50	115,530 lbs.	57 tons,	1530 pounds.
CF-OBY	84:00	70,716 lbs.	35 tons,	716 pounds.
CF-OBZ	70:55	196,845 lbs.	98 tons,	845 pounds.
CF-OCA	209:30	98,965 lbs.	49 tons,	965 pounds.
CF-OCB	317:00	144,194 lbs.	72 tons,	194 pounds.
CF-OCC	552:40	516,480 lbs.	258 tons,	480 pounds.
CF-OCD	254:15	140,015 lbs.	70 tons,	15 pounds.
CF-OCE	323:45	333,402 lbs.	166 tons,	1402 pounds.
CF-OCG	175:05	121,787 lbs.	60 tons,	1787 pounds.
CF-OCH	320:50	194,731 lbs.	97 tons,	731 pounds.
CF-OCJ	486:20	363,121 lbs.	181 tons,	1121 pounds.
CF-OCK	314:00	185,843 lbs.	92 tons,	1843 pounds.
CF-OCL	191:00	95,605 lbs.	47 tons,	1605 pounds.
CF-OCN	284:50	280,800 lbs.	140 tons,	800 pounds.
CF-OCO	291:40	226,719 lbs.	113 tons,	719 pounds.
CF-OCP	445:25	306,059 lbs.	153 tons,	59 pounds.
CF-OCQ	508:50	239,705 lbs.	119 tons,	1705 pounds.
CF-OCS	158:25	71,800 lbs.	35 tons,	1800 pounds.
CF-OCT	358:25	200,324 lbs.	100 tons,	324 pounds.
CF-OCU	368:20	265,980 lbs.	132 tons,	1980 pounds.
CF-OCV	241:00	128,135 lbs.	64 tons,	135 pounds.
CF-OCX	385:20	193,565 lbs.	96 tons,	1565 pounds.
CF-OCY	409:35	188,115 lbs.	94 tons,	115 pounds.
CF-OCZ	282:40	166,605 lbs.	83 tons,	605 pounds.
CF-ODA	126:30	41,625 lbs.	20 tons,	1625 pounds.
CF-ODB	343:50	148,520 lbs.	74 tons,	520 pounds.
CF-ODC	265:35	77,575 lbs.	38 tons,	1575 pounds.
CF-ODD	366:50	211,146 lbs.	105 tons,	1146 pounds.
CF-ODE	169:05	39,588 lbs.	19 tons,	1588 pounds.
CF-ODF	271:05	162,310 lbs.	81 tons,	310 pounds.
CF-ODG	541:45	308,050 lbs.	105 tons,	50 pounds.
CF-ODO	94:10	12,125 lbs.	6 tons,	125 pounds.
CF-ODS	117:20	40,917 lbs.	20 tons,	917 pounds.
OTTER				
CF-ODJ	386:55	379,065 lbs.	189 tons,	1065 pounds.
CF-ODK	205:00	194,270 lbs.	97 tons,	270 pounds.
CF-ODL	300:35	1,019,790 lbs.	509 tons,	1790 pounds.
CF-ODP	242:00	360,224 lbs.	180 tons,	224 pounds.
CF-ODQ	351:10	401,694 lbs.	200 tons,	1694 pounds.
CF-ODU	345:40	610,231 lbs.	305 tons,	231 pounds.
CF-ODV	564:15	371,850 lbs.	185 tons,	1850 pounds.
CF-ODW	354:20	660,337 lbs.	330 tons,	337 pounds.
CF-ODX	273:55	426,628 lbs.	213 tons,	628 pounds.
CF-ODY	299:00	465,008 lbs.	232 tons,	1008 pounds.
WIDGEON				
CF-ODR	212:50	40,845 lbs.	20 tons,	845 pounds.
TURBO-BEAVER				
CF-OEA	100:40	35,775 lbs.	17 tons,	1775 pounds.
CF-OEB	42:05	15,780 lbs.	7 tons,	1780 pounds.

## Total Transport Section:

Total Flying Time, Hours:	13,247:15
Total Loading, Lbs.:	10,868,394 lbs.
Total Loading, Tons:	5,434 tons, 394 pounds.

Table III

## HOURS FLOWN ON VARIOUS PHASES OF FLYING OPERATIONS

	1949-64	1964-65	Total
Fire Ranging (Detection, Suppression, Water-Dropping)	86,081:15	4,466:45	90,548:00
Timber Management .....	13,342:55	1,267:25	14,610:20
Fish and Wildlife .....	41,538:10	3,578:50	45,117:00
Lands .....	3,335:10	270:55	3,606:05
Parks .....	2,310:30	346:55	2,657:25
Research .....		105:45	105:45
Interdepartmental Flying .....	5,738:55	349:55	6,088:50
Administration .....	43,525:15	2,860:45	46,386:00
	195,872:10	13,247:15	209,119:25

## BREAK-DOWN OF ADMINISTRATION

	1964-65
Mercy Flights .....	24:45
Tests (Radio & Aircraft) .....	48:40
Ferrying and Instructions .....	200:20
Entomology .....	133:20
Forced Landings and Operations .....	244:35
Transportation .....	2,209:05
Surveys .....	—
	2,860:45

Table IV

## PASSENGERS AND PERSONNEL CARRIED

	1924-64	1964-65	Total
Passengers Carried .....	622,433	30,235	652,668
Personnel Carried .....	171,442	4,842	176,284
Total Passengers and Personnel Carried .....	793,875	35,077	828,952
Effective Loads Flown, Lbs. ....	193,479,752	10,868,394	204,348,146
Effective Loads Flown, Tons .....	96,739 tons	5,434 tons	102,174 tons
	1,752 lbs.	394 lbs.	146 lbs.

Table V

## HOURS FLOWN AT BASES 1964-65

Base	Hours Flown
Algonquin Park .....	481:00
Carey Lake .....	347:05
Caribou Lake .....	358:00
Chapleau .....	522:15
Fort Frances .....	722:05
Geraldton .....	311:15
Gogama .....	647:55
Ignace .....	190:35
Kenogami .....	253:50
Kenora .....	762:30
Lauzon Lake .....	284:25
Nym Lake .....	291:05
Pays Plat .....	209:05
Parry Sound .....	367:45
Pickle Lake .....	385:25
Port Arthur .....	670:25
Pembroke .....	529:05
Red Lake .....	363:45
Remi Lake .....	343:30
Sault Ste. Marie .....	760:00
Sioux Lookout .....	1,055:25
South Porcupine .....	347:00
Sudbury .....	813:25
Temagami .....	323:20
Twin Lakes (Nakina) .....	218:00
Toronto .....	355:10
White River .....	516:05
Tweed .....	379:40
Air Service General, Operations .....	438:10
	13,247:15

Table VI

## FLYING TIME — PILOTS

Pilots		1924-64	1964-65	Total
Allen	D.W.	3,784:55	473:40	4,258:35
Ballantyne	D.E.	2,631:00	369:10	3,000:10
Beaushene	G.D.	4,475:00	457:00	4,932:00
Bieck	A.H.	2,350:30	361:40	2,712:10
Burt	A.E.	9,045:45	328:30	9,374:15
Calver	D.R.	3,861:45	472:15	4,334:00
Campbell	G.E.	5,901:25	567:10	6,468:35
Colfer	A.P.	8,041:55	693:55	8,735:50
Cooke	T.C.	8,444:50	57:30	8,502:20
Cram	W.W.	1,828:20	291:20	2,119:40
Croft	B.R.	2,158:30	314:35	2,473:05
Croal	D.M.	2,724:15	593:45	3,318:00
Culliton	J.E.	757:15	346:20	1,103:35
Denley	J.G.	8,139:40	267:00	8,406:40
Evans	F.B.	5,139:00	286:25	5,425:25
Fiskar	U.W.	4,927:30	430:15	5,357:45
Glennie	N.A.	3,535:15	322:45	3,858:00
Hoar	H.A.	3,385:35	193:05	3,578:40
Hoeberg	P.S.	3,888:50	354:30	4,243:20
Howe	F.R.	100:50	262:05	362:55
Kincaid	J.	8,476:05	103:35	8,579:40
Kirk	C.J.	5,333:05	303:00	5,636:05
Lamont	J.A.	4,417:05	325:20	4,742:25
Lefevre	C.J.	9,916:25	425:00	10,341:25
Lowe	B.	2,037:55	220:45	2,258:40
Marych	E.	—	284:35	284:35
McLeod	A.K.	—	105:30	105:30
McNabb	D.D.	—	244:50	244:50
MacDougall	F.A.	5,393:20	93:40	5,487:00
North	D.H.	1,727:10	211:50	1,939:00
Parsons	R.	7,992:45	160:20	8,153:05
Pike	S.J.	1,032:45	651:15	1,684:00
Reid	D.M.	5,288:25	232:20	5,520:45
Siegel	J.	5,845:40	352:20	6,198:00
Speight	H.C.	8,973:45	565:35	9,539:20
Taylor	J.M.	3,627:25	83:15	3,710:40
Thomas	E.	4,265:55	256:35	4,522:30
Thompson	F.J.	3,493:10	348:50	3,842:00
Turcotte	L.J.	1,941:25	487:45	2,429:10
Weisflock	E.J.	—	348:00	348:00
Other Pilots		206,277:25		206,277:25
		371,161:50	13,247:15	384,409:05



Table VII

FLYING TIME — AIRCRAFT

Aircraft Beaver	1924-64	1964-65	Total
CF-OBS	5,950:25	238:50	6,189:15
CF-OBY	4,406:55	84:00	4,490:55
CF-OBZ	5,104:05	70:55	5,175:00
CF-OCA	4,479:15	209:30	4,688:45
CF-OCB	5,439:40	317:00	5,756:40
CF-OCC	4,685:10	552:40	5,237:50
CF-OCD	4,367:40	254:15	4,621:55
CF-OCE	5,287:00	323:45	5,610:45
CF-OCG	4,066:35	175:05	4,241:40
CF-OCH	4,710:00	320:50	5,030:50
CF-OCJ	4,288:00	486:20	4,774:20
CF-OCK	4,641:35	314:00	4,955:35
CF-OCL	4,167:25	191:00	4,358:25
CF-OCN	5,047:45	284:50	5,332:35
CF-OCO	5,003:45	291:40	5,295:25
CF-OCF	5,445:15	445:25	5,890:40
CF-OCQ	5,270:10	508:50	5,779:00
CF-OCS	4,722:15	158:25	4,880:40
CF-OCT	5,035:05	358:25	5,393:30
CF-OCU	4,694:20	368:20	5,062:40
CF-OCV	4,331:25	241:00	4,572:25
CF-OCX	4,143:50	385:20	4,529:10
CF-OCY	4,028:55	409:35	4,438:30
CF-OCZ	3,251:20	282:40	3,534:00
CF-ODA	3,817:25	126:30	3,943:55
CF-ODB	4,567:10	343:50	4,911:00
CF-ODC	5,348:20	265:35	5,613:55
CF-ODD	1,462:35	366:50	1,829:25
CF-ODE	3,572:25	169:05	3,741:30
CF-ODF	3,704:15	271:05	3,975:20
CF-ODG	4,426:35	541:45	4,968:20
CF-ODO	953:25	94:10	1,047:35
CF-ODS	790:30	117:20	907:50
Otter			
CF-ODJ	3,357:25	386:55	3,744:20
CF-ODK	2,774:40	205:00	2,979:40
CF-ODL	3,214:00	300:35	3,514:35
CF-ODP	2,182:00	242:00	2,424:00
CF-ODQ	2,479:00	351:10	2,830:10
CF-ODU	1,253:25	345:40	1,599:05
CF-ODV	1,671:40	564:15	2,235:55
CF-ODW	1,030:30	354:20	1,384:50
CF-ODX	415:00	273:55	688:55
CF-ODY	334:25	299:00	633:25
Widgeon			
CF-ODR	1,760:50	212:50	1,973:40
Turbo-Beaver			
CF-OEA	—	100:40	100:40
CF-OEB	—	42:05	42:05
All Other Aircraft	208,537:20	—	208,537:20
	370,220:45	13,247:15	383,468:00

Table VIII

## MERCY AND EMERGENCY FLIGHTS 1964-65

Date	Aircraft	Pilot	Journey	Time	Reason
May 24/64	OCH	U. W. Fiskar	Algonquin Park to Crow Lake	:35	Man taken out due to medical reasons.
June 29/64	ODV	H. C. Speight	Sandy Lake to Sioux Lookout	3:00	Man with severe burns taken to hospital.
July 3/64	OCO	D. D. McNabb	Prairie Portage to Cache Bay to Nym Lake	:25	Young man had fish hook in eye and needed attention.
July 4/64	ODU	F. J. Thompson	To Sudbury Hospital	:40	Man injured back while timber cruising.
June 16/64	OCH	U. W. Fiskar	Algonquin Park to Whitney	1:05	Two men, whose craft had overturned and had been in water for 2 hours needed medical attention.
July 22/64	OCH	U. W. Fiskar	Algonquin Park to Toronto	2:35	Boy with possible skull fracture taken to hospital.
July 31/64	OCY	N. A. Glennie	Port Arthur to Nym Lake	:35	Boy with leg injury taken to hospital.
July 25/64	OCH	U. W. Fiskar	Algonquin Park to Taylor Station	:20	Girl with fractured ankle taken to Dr. at Taylor Station.
July 17/64	ODW	G. E. Campbell	To Pembroke Hospital	:55	Boy injured in canoe accident in rapids and taken to hospital.
July 18/64	IKR (Helicopter)	Boughner	Cochrane to Kapuskasing	1:20	Mr. Aho required medical attention (no other explanation).
July 7/64	ODQ	P. S. Hoeberg	Cochrane to Toronto Island to South Porcupine	7:20	Man taken to hospital.
Sept. 4/64	OCH	U. W. Fiskar	White Lake to Smoke Lake	:20	Man with severed chords on his left hand taken for medical attention.
Sept. 13/64	OCG	S. J. Pike	Gogama to South Porcupine to Gogama	1:15	Man diagnosed as a partial stroke victim taken to hospital.
Sept. 5/64	IKR (Helicopter)	Boughner	Cochrane	:35	Man injured by felled tree taken to Lady Minto hospital.
Sept. 24/64	OCG	S. J. Pike	Gogama to South Porcupine	1:15	Boy with cut eye taken to hospital.
Dec. 25/64	OCG	S. J. Pike	Gogama	1:20	Boy taken to hospital haemorrhaging due to removal of tonsils.
Mar. 4/65	OBS	D. W. Allen	Sudbury to North Bay	:40	Man crushed by a load of logs and taken to North Bay.

Table IX

## HELICOPTER FLYING HOURS

HELICOPTER	HOURS FLOWN
------------	-------------

CF-HER .....	378:45
CF-IZH .....	318:05
CF-ICG .....	470:55
CF-IKR .....	311:35
CF-PUU .....	2:00
CF-JFR .....	427:30
	<hr/>
	1,908:50

## HOURS FLOWN ON VARIOUS PHASES OF FLYING OPERATIONS

SERVICE	HOURS FLOWN
---------	-------------

Fire Ranging .....	1,423:15
Timber Management .....	31:55
Fish & Wildlife .....	29:30
Lands .....	4:45
Parks .....	<hr/>
Interdepartmental Flying .....	1:40
Administration .....	417:45
	<hr/>
	1,908:50

## BREAKDOWN OF ADMINISTRATION

Research .....	3:45
Mercy Flights .....	3:00
Ferrying .....	230:25
Surveys .....	149:55
Transportation .....	28:25
Operations .....	2:15
	<hr/>
	417:45



**Crown Land has proven popular for summer resort locations.**



**Kishkebus Lake Wilderness Area, Tweed District, is an area of high aesthetic and recreational value.**



## LANDS AND SURVEYS BRANCH

THE Branch is comprised of five sections with responsibilities and functions as follows:

### LANDS SECTION

Management of public lands including lands under water. Disposal by sale, patent, vesting order, quit claim deed, lease, licence of occupation or land use permit for many private, commercial, industrial, municipal or public uses; release of reservations in patents, assignments, cancellations. Reservation of land for parks, access points, other public and government uses.

### LAND USE PLANNING SECTION

Supervision of the preparation of Land Use plans. Wilderness Areas. Advisory Committee on Recreational Land Use Planning. Private Land Liaison Committee.

### LAND ACQUISITION SECTION

Recommendations and applications for purchase of private lands for parks, wilderness or nature reserves, water access, hunting, fishing, forestry, recreation and other public uses.

### SURVEYS SECTION

Surveys and descriptions on Crown Lands for parks, Base and Meridian lines, summer resort and recreational purposes, lands for acquisition or disposition. Retracement surveys and restoration of original Crown survey points.

Inspection, recording and custody of original plans and field notes of Crown and Municipal surveys.

Map compilation. Authorization of Geographical Names.

Distribution of maps, publications and copies of survey records.

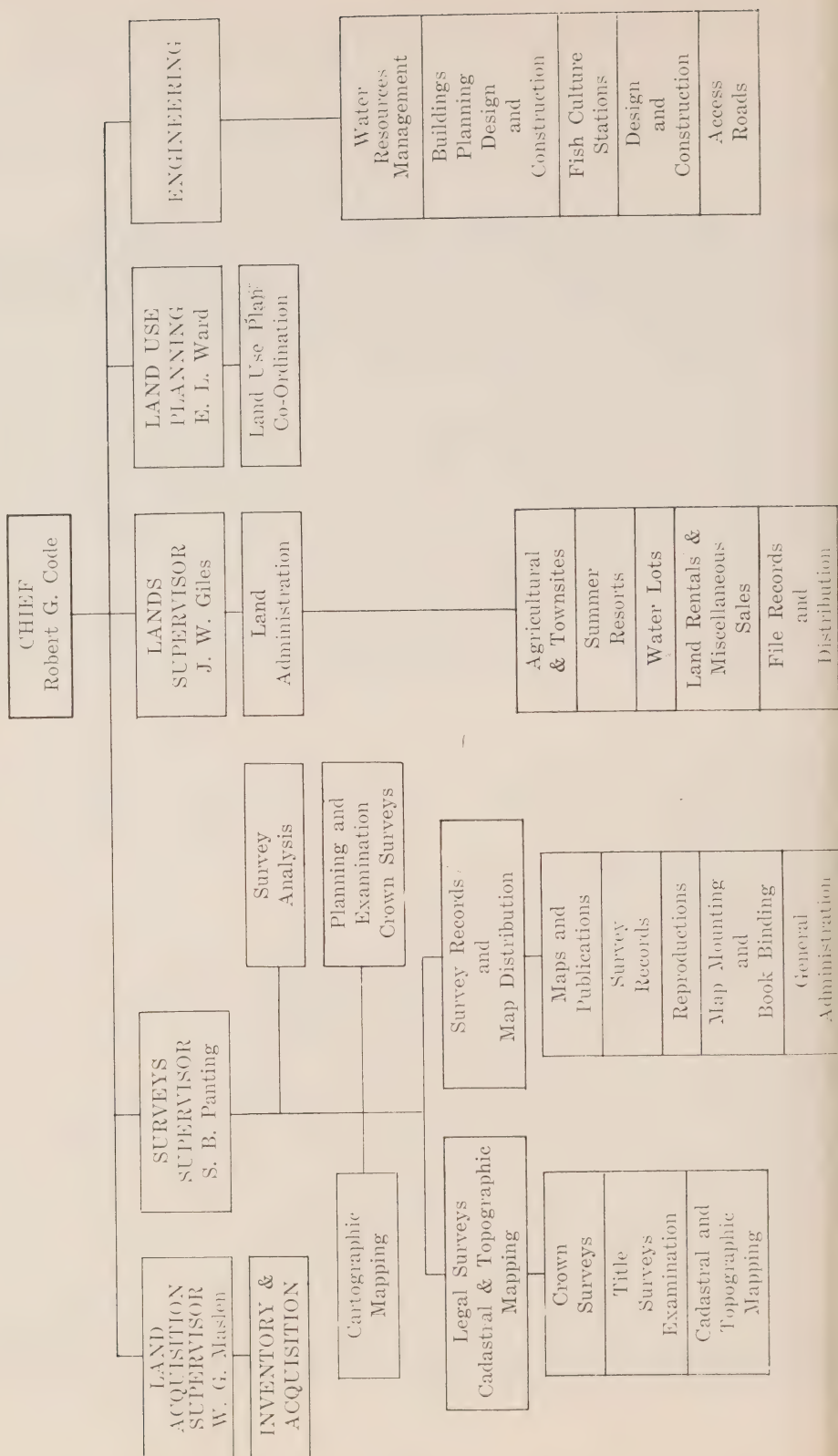
Accounts payable, supplies and equipment.

Access Roads.

### ENGINEERING SECTION

Approval of dams. Licences of occupation for dams, flooding and diversions. Water resource management. Issuance and servicing of Water Power Lease Agreements. Plans for buildings, renovation of plant and equipment. Engineering consultations.

# LANDS AND SURVEYS BRANCH



## LANDS SECTION

### SUMMER RESORT LANDS

The use of land is always changing and it is essential that the Lands Section try to anticipate many of the problems involved in land administration. This requires constant study of the statutes and regulations and the effect of their application. In this way we hope to bring to the people of Ontario the maximum benefit from the land which is theirs.

Continued emphasis was placed on optimum lake development for private cottage sites, commercial sites and public use areas. In districts nearest to urban centres lake-by-lake surveys to estimate recreational land potential are being made to effect the best possible use consistent with overall planning and in co-operation with the Departments of Health, Tourism and Information and others having an interest.

To facilitate the disposal of land for private cottage sites an inventory of between 4,000 and 5,000 lots is maintained on lakes throughout the Province where Crown land is still available.

### AGRICULTURAL LAND

The Public Agricultural Lands Committee which was established under Section 43B of The Public Lands Act considered several applications for agricultural land. As a result of recommendations made by this committee to the Minister, 21 agreements for sale or lease were issued for execution by approved applicants. Of these, 12 were completed by the issuance of letters patent during the period under review.

All unpatented sales and free grant locations of agricultural land made prior to the repeal of Sections 44 to 61 of The Public Lands Act on March 29, 1961, were reviewed for the purpose of determining whether letters patent could issue or whether cancellation should be effected. District staff interviewed the settlers concerned to explain to them their legal position and the requirements necessary to qualify for patent. It is expected that these interviews together with an active follow-up programme will resolve most of the outstanding cases by the end of the next fiscal year.

### THE ONTARIO-DOMINION AGREEMENT — THE VETERANS' LAND ACT (CANADA)

No new transactions were effected under the Ontario Dominion Agreement—The Veterans' Land Act (Canada) which expires in 1968. With respect to subsisting sales the requirements imposed under The Public Lands Act were satisfactorily met in two cases for which letters patent issued. Thirteen cases of licences of occupation or agreements for sale which remain unpatented will be reviewed and inspection made of the properties involved. This will determine if conditions have been complied with in order that they may qualify for patent.

### OLD CLAIMS

We handled 76 applications for quit claim patents from persons claiming title to land by reason of 60 or more years possession adverse to the Crown. Thirty-two have been satisfactorily completed and 44 are still under investigation.

These cases are dealt with under Section 19 of The Public Lands Act and an improved procedure has been developed to handle applications. This includes

information sheets setting out the requirements under Section 19 and a guide for the preparation of statutory declarations in support of claims for the use of staff, lawyers and others. To ensure that we are dealing with these cases in the best possible way we have contacted other jurisdictions administering similar lands and are currently studying their methods and procedures. These include the other Provinces of Canada and the United States of America.

## TOWNSITES

The anticipated increase in the sale of townsite lots did not materialize. The demand was far below that of the previous year. With a view to preventing the lowering of standards, improving the health situation and controlling the size, type and number of buildings on a lot some areas are placed under restrictive orders. All applications for permission to alter or add to structures or erect new ones are carefully considered before any approval is given.

In the former townsite of Brunetville, which was annexed to the town of Kapuskasing, certain areas were transferred by Order-in-Council to The Ontario Housing Corporation who now exercise administration and control.

## SPECIAL LAND USES

The Department continued to make available to eligible applicants, land on highways for gasoline stations, motels, grocery stores and other commercial ventures needed to serve the demand of the travelling public. Public land was sold or leased for many other special use purposes ranging from a site for a private residence to sites for microwave relay systems and airports.

The revision of rates for licences of occupation was undertaken to bring them more in line with present day values. The resulting increases ranged from negligible in some cases to approximately 300 percent in the case of flooding of land. The estimated overall increase for all licences reviewed, which cover some 80 different land uses, is about 100 percent.

In connection with commercial summer camps and tourist outfitter establishments interest is stimulated by the implementation of more favourable forms of tenure which allow development with lower capital outlays.

Many enquiries were received during the year from various organizations for children's camps many of which were satisfied. However, because of the lack of suitable accessible areas in southern Ontario it is becoming very difficult to satisfy demand.

## WATER LOTS

An Act to approve an agreement between the Government of Canada and the Government of the Province of Ontario respecting public harbours received Royal Assent on April 26, 1963. Twenty-seven Federal harbours were involved. It was determined that the Department of Lands and Forests had over the years issued patents, leases and licences of occupation within the boundaries of some of the harbours as now defined and that the Federal Department of Transport had issued occupation authorities for lands outside of the harbour limits. The two jurisdictions concerned concluded an arrangement under which the Department of Lands and Forests has cancelled the authorities issued for land now within Federal harbours. The Federal Department of Transport will now deal with the persons concerned. With the concurrence of the Department of Transport, the Department of Lands and Forests has assumed administration and control



of occupied water lots formerly administered by Canada. All grants and quit claims by Her Majesty the Queen in right of Ontario were confirmed by Canada and conversely all grants and quit claims by Her Majesty the Queen in right of Canada were confirmed by Ontario.

During the year the control of nine water lots (outside of Federal harbours) was transferred by Vesting Order to the Federal Government. Seven of these are for public docks and wharves, one for a lighthouse site and one was in connection with the Constance Lake Indian Reserve.

Three water lot areas were transferred by Vesting Order to The Ontario Water Resources Commission, one for a water intake pipe and two for sewer outfalls.

Because of the necessity for better control of beach lands four municipalities have shown an interest in entering into an agreement with the Department under the provisions of Section 43(a) of The Public Lands Act. One such agreement has been made with the municipality of the Township of Bertie. Under such agreements municipalities are empowered to police the beach and may also lease areas to persons for the purposes of erecting structures such as boathouses, docks and refreshment stands. Revenue from leases will be shared by the Provincial and the municipal governments concerned. Current Departmental plans include placing these areas under agreement for periods ranging from three to five years on a trial basis.

Water lot rentals were reviewed during the year and rentals brought into line with current regulations. This resulted in an increase in revenue of approximately 100 percent.

## LAND USE PLANNING SECTION

Many people think of Land Use Planning only in terms of the best use of the land for the production of agricultural crops. While the production of agricultural crops has to be given a high priority, there are other uses of land (including the water) which are very important to Ontario's economy and to the well being of her citizens. These are the renewable natural resources — timber, fish, wildlife and that intangible but very important resource — recreation.

It is the responsibility of the Department of Lands and Forests to manage these resources on public lands and to guide their management on private lands. Planning for this management is what is meant by Land Use Planning in the Department of Lands and Forests.

It can be seen that Land Use Planning within the Department of Lands and Forests has a much more comprehensive meaning than is often the case with other organizations or government departments.

### LAND USE PLANS

Land use plans must be made area-wise for the purposes of planning within the department. A plan is made for each of the twenty-two forest districts in the province. The method of planning is co-ordinated by the Land Use Planning Section and the management itself is co-ordinated through the Regional Foresters and Directors and the Head Office branches.

During the year nine districts submitted a Land Use Plan for their district, in addition to the eleven having reported last year. Of the twenty-two districts in the province, only two remain to submit their report. Of these twenty plans,

four (i.e., Tweed, White River, Geraldton and Lindsay) have been approved by the Minister of Lands and Forests. The remainder are being examined in preparation for approval.

The Tweed District Land Use Plan is the first to be made using the site classification evolved by the Research Branch. It is hoped that the production of this plan will provide the stimulus needed to expedite the information for the other districts in the province.

## RECREATION LAND USE PLANNING

In each District north of and including the Parry Sound and Pembroke Districts is an advisory committee made up of the District Forester as chairman, the local Member of Parliament, a representative of the logging industry, a representative of the Federation of Anglers and Hunters and a representative of the Tourist Outfitters. These committees meet at least once a year to discuss recreation plans in the districts concerned and make recommendations arising out of discussions with the Minister.

A report with the committee's recommendations is received from each of the 16 districts having an Advisory Committee. These are considered by the Minister — those approved are implemented.

## PRIVATE LANDS LIAISON COMMITTEE

This committee is made up of three members of the Department of Agriculture and three members of the Department of Lands and Forests. Its purpose is to discuss problems common to each Department and recommend solutions to both Ministers. One meeting was held during the past year to discuss the participation of A.R.D.A. in the provincial site classification programme.

## WILDERNESS AREAS

There are now 40 wilderness areas set aside under the Wilderness Areas Act, 1959. During the past year three new areas were set aside — Shoal Lake Wilderness Area in the Fort Frances District, Sankey Township Nature Reserve in the Kapuskasing District and Blair Township Nature Reserve in the Parry Sound District.

In addition to the areas which have been set aside, there are a number of other areas which are being considered. These are mostly what we call Nature Reserves or reference areas. These are being recommended for their scientific and biological interest.

## LAND ACQUISITION SECTION

The Land Acquisition Section continued to expand its programme of purchasing private lands for purposes of Park development, General Recreation, Wilderness Areas, Access Points, Forest Management and District Improvement.

Since the Land Acquisition programme commenced in the fall of 1963, 550 proposals representing 2,272,228 acres of land which may be acquired are on file. Of these, 50 proposals, or part thereof, totalling 168,863 acres were rejected as unsuitable to Department programmes or were rejected because the purchase price was considered too high. Sixty proposals, with approximately 254,836 acres are in an advanced stage of investigation or negotiation for acquisition.

The following list shows the approximate acreage for which proposals have been received, separated by programme category:

LAND ACQUISITION PROPOSALS AND AREAS ACQUIRED  
ACREAGE ON RECORD FOR PERIOD APRIL 1/64 TO MARCH 31/65

Programme Categories	Acreage Proposed	Acreage Acquired	Acreage Rejected
Access Points	61,868.55	140.20	1,322.00
Parks	340,777.57	4,515.68	3,863.50
General Recreation	546,040.48	16.58	997.03
Forest Management	1,307,022.72	8,901.91	1,810.00
District Improvement	559.59	25.02	13.12
Wilderness or Nature Reserves	3,808.53	15.72	00.00
Miscellaneous	12,150.57	546.24	364.65
Totals	2,272,228.01	16,597.36	8,370.30

## SURVEYS SECTION

To preserve the original Crown survey fabric of the province, which is rapidly becoming obliterated the long range programme of retracement surveys and the restoration of original Crown survey points by remonumenting with permanent survey monuments, instructions were issued for the retracement of approximately 433 miles of original survey lines. 398 miles were completed during the year along with 23 miles in connection with Crown subdivision surveys. Special instructions were issued to 52 individual Ontario Land Surveyors in private practice for the restoration of original Crown survey points.

The subdivision survey programme was further reduced during the fiscal year over the previous year insofar as summer resort lots are concerned. A total of 64 plans of subdivision were registered containing a total of 963 lots.

Base maps were prepared for Map Number 21 (replacing Map Number 21A) "Southern Ontario" of the territorial series on a scale 8 miles to 1 inch. Base maps were also prepared for Map S.165 the first of a series of 4 surficial geology maps of part of Northern Ontario. The features of these maps is dealt with in the report following.

In an attempt at reducing the number of hours spent in the fair drawing of maps for photo-lithography, a study of the negative Scribing system was undertaken. The system was adopted and the first map "Algonquin Provincial Park" completed in a much shorter time than had been anticipated.

## Survey Instructions

### SPECIAL RETRACEMENT SURVEYS

1. Retracement survey of part of the North Boundary of Algonquin Provincial Park, District of Nipissing.
2. Retracement survey, Township of Bagot, District of Renfrew.
3. Retracement survey of the West Boundary, Township of Bathurst, County of Lanark.
4. Retracement survey of the East Boundary, Township of Boys, District of Kenora.



5. Retracement survey of the road allowance between Concessions 2 and 3, Lots 1-25, Township of Burleigh, County of Peterborough.
6. Retracement survey of the West Boundary, Township of Burpee, District of Parry Sound.
7. Retracement survey of the West Boundary, Township of Chaffey, District of Muskoka.
8. Retracement survey of the North Boundary, Township of Calvert, District of Cochrane.
9. Retracement survey of the South Boundary, Township of Dryden, District of Sudbury.
10. Retracement survey of the North Boundary, Township of Dance, District of Rainy River.
11. Retracement survey of the East Boundary, Township of East Ferris, District of Nipissing.
12. Retracement surveys in the Townships of Eastnor, St. Edmunds, and Lindsay, County of Bruce.
13. Retracement survey of the South Boundary, Township of Foley, District of Parry Sound.
14. Retracement survey of the East Boundary, Township of Farrington, District of Rainy River.
15. Retracement survey of part of the West and South Boundary, Township of Falconer, District of Nipissing.
16. Retracement survey of the North Boundary, Township of Guilford, County of Haliburton.
17. Retracement survey of the South Boundary, Township of Howland, District of Manitoulin.
18. Retracement survey South Limit of Lots 7 and 8, Concession 5, line between Concessions 4 and 5, across Lots 9-12, Township of Hess, District of Sudbury.
19. Retracement survey of the North Boundary, Township of Hanmer, District of Sudbury.
20. Retracement survey of the West Boundary, Township of Harcourt, County of Haliburton.
21. Retracement survey line between Lots 17-20, Concessions 13-15, road allowance between Concessions 12-15, Lots 18-20, Township of Herschel, County of Hastings.
22. Retracement survey of the East Boundary, Township of Harcourt, County of Haliburton.
23. Retracement survey of the East Boundary, Township of Hagerman, District of Parry Sound.
24. Retracement survey of the South Boundaries, Townships of Jamieson and Kidd, the West Boundary and the line between Lots 6 and 7, Concessions 1 to 6, Township of Jessop, District of Cochrane.
25. Retracement survey of the North Boundary, Township of Jamieson, West and East Boundaries, Township of MacDiarmid and Reid, South Boundary, Township of Carnegie, District of Cochrane.
26. Retracement survey of the South Boundary, Township of Lorrain, District of Timiskaming.
27. Retracement survey of the South Boundary, Township of Lake, County of Hastings.



28. Retracement survey of the East Boundary, Township of Master, District of Nipissing.
29. Retracement survey of the South Boundary, Township of Madoc.
30. Retracement survey of the East Boundaries, Townships of Prosser, Wark and Murphy, South Boundary, Township of Prosser, District of Cochrane.
31. Retracement survey of the West Boundaries, Townships of Prosser, Wark and Murphy, South Boundary, Township of Wark, District of Cochrane.
32. Retracement survey of the North Boundary, Township of McIntyre, District of Thunder Bay.
33. Retracement survey of parts of the South Boundary, Townships of Neebing and Paipoonge, District of Thunder Bay.
34. Retracement survey of the East Boundary, Township of North Himsworth, District of Parry Sound.
35. Retracement survey of part of the West Boundary, Townships of North and South Crosby, County of Leeds.
36. Retracement survey of the road allowance between Concessions 5-9, Lots 15-21, Township of Oakley, District of Muskoka.
37. Retracement survey of the North Boundary, Township of Oakley, District of Muskoka.
38. Retracement survey of the West Boundary, Township of Pellatt, District of Kenora.
39. Retracement survey of the North Boundary, Township of Robb, District of Cochrane.
40. Retracement survey of the North Boundary, Township of Richards, County of Renfrew.
41. Retracement survey of the North Boundary, Township of Rayside, District of Sudbury.
42. Retracement survey of part of the West Boundary, Township of South Crosby, County of Leeds.
43. Retracement survey of the North Boundary, Township of Tarentorus, District of Algoma.
44. Retracement survey of the East Boundary, Township of Widdifield, District of Nipissing.
45. Retracement survey of part of the Boundaries, Township of Zealand, District of Kenora.
46. Retracement survey of the West Boundary, Township of Widdifield, District of Nipissing.

#### SUMMER RESORT SUBDIVISION SURVEYS

1. Wolf Lake, Township of Anstruther, County of Peterborough.
2. Looncall Lake, Township of Anstruther.  
Loucks Lake, Township of Burleigh.  
Jacks Lake, Township of Methuen.  
Jacks Lake, Township of Methuen.  
Jacks Lake, Township of Methuen, County of Peterborough.
3. Round Lake, Township of Ballantyne, District of Nipissing.
4. Healy Lake, Township of Conger, District of Parry Sound.
5. Healy Lake, Township of Conger, District of Parry Sound.

6. Unnamed Island, Healy Lake, Township of Conger, District of Parry Sound.
7. Berry Lake, Township of Devonshire, Linklater Lake, Township of Tustin, Zigzag Island, Clearwater Bay, South of the Township of Boys, District of Kenora.
8. McIntosh Settlement, Forest Lake, West of the Township of Smellie, District of Kenora.
9. Koshlong Lake, Township of Glamorgan, Koshlong Lake, Township of Glamorgan, County of Haliburton.
10. Trout Lake, Township of Gidley, Flavus Lake, Township of Smellie, District of Kenora.
11. Kakabikitchiwan Lake, Township of Godson, District of Kenora.
12. Middle Shebandowan Lake, Township of Haines, District of Thunder Bay.
13. Town of Kapuskasing, Lots 18 and 19, Concessions 14 and 15, Township of O'Brien, District of Cochrane.
14. Lac De Mille Lac, unsurveyed territory, District of Thunder Bay.
15. Lac De Mille Lac, unsurveyed territory, District of Thunder Bay.
16. Madelaine Lake, unsurveyed territory, District of Thunder Bay.
17. Munro Lake, Township of Munro, District of Cochrane.
18. Caribow Lake, Township of McConkey, District of Parry Sound.
19. Lake of the Woods, Township of McCrosson, District of Rainy River.
20. Kenogamissi Lake, Township of McKeown, District of Timiskaming.
21. Unnamed Island, McQuaby Lake, Township of Nipissing, District of Parry Sound.
22. Temple Bay, Eagle Lake, Township of Temple, Pistol Lake, North of the Township of Umbach, District of Kenora.
23. Rainy Lake, Township of Watten, Seine Bay, Rainy Lake, Township of Watten, Hopkins Bay, Rainy Lake, Township of Watten.

## MUNICIPAL SURVEYS

1. Investigate the returns of Municipal Survey Number 860, Township of Gloucester, County of Carleton.

## MISCELLANEOUS SURVEYS

1. Improvement and Boundary surveys within the following parks:

Lake Simcoe District	Wasaga Beach
Fort Frances District	Quetico
	Caliper Lake
	Lake of the Woods
Kenora District	Aaron
	Blue Lake
	Rushing River
Port Arthur District	Sibley
	a) Lake Marie Louise
	b) Pounsford Lake
	c) Pass Lake
	d) Lizard Lake
	Inwood
	Kakabeka Falls
Lindsay District	Ferris Property
	Presqu'ile
Tweed District	Bon Echo

2. Survey of a Development Road, P.E. 747, Township of Alice and Petawawa, County of Renfrew.
3. Survey of certain Lots on Registered Plan #320 and 321, Township of Brighton, County of Northumberland.
4. Survey the interior boundaries, Point Farms Provincial Park, Township of Colborne, County of Huron.
5. Survey a Dam Site, Township of Denbigh, County of Lennox and Addington.
6. Survey of a Mill Dam, Village of Delta, County of Leeds.
7. Survey a road Right-of-Way, Township of Harcourt, County of Haliburton.
8. Survey part of Lots 14 and 15, Concession 8, Township of Haldimand, County of Northumberland.
9. Survey certain parcels on Wolf Island and Island No. 21, Township of Harvey, County of Peterborough.
10. Survey certain land excluded from Wheatley Provincial Park, Township of Romney, County of Kent.
11. Survey a Parcel of Land, Township of Romney, County of Kent.
12. Survey certain limits of Wheatley Provincial Park, Township of Romney, County of Kent.
13. Survey the Exterior Boundaries, Wheatley Provincial Park, Township of Romney, County of Kent.
14. Survey of a Tower Site and Right-of-Way, Township of Sherborne, County of Haliburton.
15. Survey a Parcel of Land, Lot 2, Concession 3, Township of Scarfe, District of Algoma.
16. Survey the Boundaries, Lot 15, Concession 5, W.B.R., Township of St. Edmunds, County of Bruce.
17. Survey of Departmental Lands, Temagami Townsite, District of Nipissing.
18. Survey of certain lands, Tiny Marsh, Township of Tiny, County of Simcoe.
19. Survey the Boundaries of certain parcels, Wye Lake, Township of Tay, County of Simcoe.
20. Survey a parcel of land, Lot 9, Concession 5, Township of Zealand, District of Kenora.
21. Surveys in the Townships of Sheffield, McKellar, Hawley, County of Lennox and Addington, Districts of Parry Sound and Sudbury.
22. Surveys in the Townships of Boys, District of Kenora, Burton, District of Parry Sound, Salter, District of Sudbury, Tosorontio, County of Simcoe, Wallbridge, District of Parry Sound, Orlig, District of Nipissing, Southworth, District of Kenora, East of Glass, District of Kenora, East Gwillimbury, County of Simcoe.
23. Surveys and inspections, Townships of McConkey, District of Parry Sound, Trill, District of Sudbury, McDougall, District of Parry Sound, Smellie, District of Kenora, Lorne, District of Sudbury, Cowper, District of Parry Sound, Salter, District of Sudbury.

In addition The Surveyor General of Canada issued instructions for the re-surveying of boundaries, parts of boundaries and the laying out of subdivisions and other parcels in 16 Indian Reserves in Ontario, as well as the site for an Indian Day School, in Thunder Bay District. Copies of the surveys were filed with this Branch.

## Completed Summer Cottage Lot Surveys

Administrative Districts	Individual Parcels Private Survey	Crown Lots on Subdivision Plans	Total
Chapleau	1		1
Cochrane		14	14
Erie			
Fort Frances	3	36	39
Geraldton		34	34
Gogama	1	33	34
Huron			
Kapuskasing			
Kenora	19	142	161
Lindsay		21	21
North Bay	12	16	28
Parry Sound	25	92	117
Pembroke	3		3
Port Arthur	1	102	103
Kemptville			
Sault Ste. Marie	5		5
Simcoe			
Sioux Lookout			
Sudbury	20	33	53
Swastika	2	44	46
Tweed	11	55	66
White River	1		1
<b>TOTALS:</b>	<b>104</b>	<b>622</b>	<b>726</b>

The above includes 59 Plans of Subdivision containing 622 lots. In addition 5 residential subdivisions containing 341 lots were finalized and approved.

## Cadastral and Topographic Mapping

### PLANIMETRIC DETAIL MAPS

The following detailed planimetric plans and maps were completed:

Part Township Lots .....	62	Subdivision and/or reference .....	8
Composite Plans .....	0	Annulled Township Subdivisions .....	13
Area or Grid .....	24	Water Lots .....	17
Field Note Pages .....	24	Township .....	16
Provincial Parks .....	32	Retracement Surveys .....	3
Miscellaneous .....	41		

## General Administration, Survey Records and Map Distribution

### MAP DISTRIBUTION

A decrease is to be noted in the overall distribution figure of all maps in comparison with the quantity distributed the previous fiscal year. This is mainly due to the public requesting lithographed maps in the areas not covered by the 1:50,000 or 2 mile to one inch map series. White prints of the areas mapped at ½ mile to one inch were substituted. It is also due to the fact that our stock of the Provincial series of lithographed map sheets on the scale of 2 miles to one inch was depleted and those required for district offices had to be ordered direct from the Department of Mines and Technical Surveys in Ottawa, which figures are not included in this report.

A total of 16,711 copies of lithographed district and miscellaneous maps pro-



duced by this department were distributed, of which 2,334 copies were for the "official use" of this and other departments of the provincial and federal governments (see "Trend of Map Distribution Chart").

The map sheets of the National Topographic Series, produced and distributed by the Federal Department of Mines and Technical Surveys, as well as the sheets produced by the Army Survey Establishment Bureau of the Department of National Defence, Ottawa, for resale purposes, or for the "official use" of this and other departments of the Ontario Government were distributed in the total quantity of 35,210 copies (see "Trend of Map Distribution Chart"). Of the total distributed, 10,930 copies were supplied for the "official use" of this Department, including district offices, by the Department of Mines and Technical Surveys without charge.

The distribution of marine charts, published by the Canadian Hydrographic Service, Ottawa, mainly the Lake Simcoe and Trent Canal Nautical charts amounted to 181 copies, which figure is included in the overall map distribution figure.

Seven thousand and sixty (7,060) copies (see "Trend of Map Distribution Chart") of the Provincial Topographic Series, on the scale of two miles to one inch were distributed.

The summary of the total quantity of lithographed maps sheets distributed is as follows:

National Topographic Series .....	42,270
Map No. 20 .....	651
District Maps .....	9,152
Map No. 33A-Electoral .....	257
Map No. 28—Geographical Townships .....	688
Miscellaneous Maps .....	5,963
<b>TOTAL</b> .....	<b>58,981</b>

Seventy-five hundred (7,500) transactions for the sale of lithographed map sheets, reproductions of survey records and other maps and plans were made as "over the counter" individual cash sales. Eight hundred and twenty-four (824) counter invoices for items sent out on credit were issued, an increase of almost 100 over the previous year's figure. Nine thousand eight hundred (9,800) letters of request from the public covering similar transactions were processed, this being an increase of eight hundred (800) over the previous year.

## REPRODUCTIONS

Forty thousand, one hundred and fifty-one (40,151) square feet of photographic reproduction paper was used for reproductions of maps and survey records for departmental work, the survey branches of the Ontario Hydro-Electric Power Commission and the Ontario Department of Highways, other provincial government departments and commissions, Ontario Land Surveyors and the general public.

The amount of sensitized paper used in the reproduction of various topographic map tracings, Crown Land tracings and township prints, Georgian Bay Island map sheets, subdivision and summer resort plans of surveys, as well as other miscellaneous plans, by the dry process reproduction method increased this year. A total of 343,102 square feet of sensitized paper and linen were consumed.

A summary of the dry process material used, is as follows:

Blue or black line paper .....	333,023 Sq. Ft.
Transparent linen —1,405	
Transparent plastic—3,942 .....	5,347 Sq. Ft.
Opaque linen .....	4,732 Sq. Ft.
<hr/>	
Total .....	343,102 Sq. Ft.

Reproductions required for mapping projects for this branch and various district offices, to be produced photographically by commercial firms, are not included in the above figures.

## MAP MOUNTING AND BOOKBINDING

The following work was handled by the map mounting and bookbinding staff maintained by this Section for departmental requirements including the preservation of old survey plans.

### Map Mounting

#### New plans mounted

Summer Resort Subdivision and Composite .....	284
Miscellaneous lithographed maps and prints .....	831

#### Old plans remounted

Original township surveys and patent plans .....	156
Special projects .....	135

### Bookbinding

#### New bindings

Field notes of current surveys .....	45
Miscellaneous .....	82

#### Rebindings

Patent References .....	20
Field Notes .....	18

#### Miscellaneous

Documents and pages laminated .....	2,590
Other .....	50

## SURVEY PARTY EQUIPMENT

Three field survey parties under staff surveyors, carrying out summer resort location subdivision surveys, park, inspection, retracement and other miscellaneous surveys, were supplied and equipped for field work. Two Aqua Valve locators (dip needles) were purchased for use of the field parties to facilitate the locating of iron survey bars as well as eight personal radio transceivers, enabling each survey party to have two-way verbal communication. These have proven to be extremely effective in expediting field survey work.

Survey monuments to cover the survey programme were distributed to various district offices for the use of Ontario Land Surveyors on staff, or in private practice who were making retracement surveys, individual or subdivision surveys for summer resort purposes on Crown Land under instructions from the department, for

Municipal Surveys being made under departmental instructions, or for other miscellaneous surveys, as follows:

Iron Bars— 6 inch by 1 inch square .....	370
24 inch by 1 inch square .....	967
24 inch by $\frac{5}{8}$ inch square .....	488
24 inch by $\frac{1}{2}$ inch square .....	525
48 inch by 1 inch square .....	2,530
<hr/>	
Total .....	4,880
Crown Land Monuments—Rock .....	9
Bronze Caps .....	2,682
Municipal Monuments —Bronze Caps .....	67

## CROWN SURVEY RECORDS

The use of original Crown Survey Records for reproduction or reference purposes by the survey branches of the Hydro-Electric Power Commission of Ontario, the Ontario Department of Highways, Ontario Land Surveyors in private practice and the general public, continues to increase.

Two thousand, seven hundred and five (2,705) cards were typed covering plans being recatalogued and filed in the Survey Record Catalogue. In addition, 197 entries were made in the Surveyors' designation number card index of surveyed parcels, including change of file numbers. The returns of surveys of 71 plans of subdivisions made for summer resort purposes and 150 plans of miscellaneous surveys consisting of the surveys of pipeline right-of-ways, reference plans, retrace-ment resurveys made on Crown Lands, individual summer resort location surveys and water lots as well as 54 books of field notes were registered, catalogued and filed. Field notes showing the location of, and type of monument used to restore 168 points of the original Crown survey fabric, were filed.

The refileing of all plans of surveys, with the exception of the plans of surveyed mining claims presently filed on current correspondence files into the vertical filing system, was continued this fiscal year. Approximately 34,500 flat, current correspondence files were examined. Approximately 11,355 plans of surveys, descriptions, field notes and affidavits were removed and refiled into the vertical filing system. This required the typing of approximately 8,000 filing labels which was done partly by the summer casual help and partly by the full time staff. All survey record material removed from the files was microfilmed.

## Cartographic Mapping and Geographical Nomenclature

### MAP PRODUCTION

A new base map 21 (replacing 21A) "Southern Ontario" of the territorial series, scale eight miles to one inch was compiled, drawn. 16,500 copies were lithographed. The new base was prepared similar to the other maps of this series having more subdued colour tones and showing the Department of Lands and Forests administration boundaries.

Electoral maps of Metropolitan Toronto and Southern Ontario with numerous insets of heavily populated areas were drawn and reproduced. These maps were prepared for the Chief Electoral Officer to accompany the Report of the Redistri-



bution Committee 1964-65. 200 copies of each were lithographed in Red and Black.

The first of a series of four surficial geology maps of Northern Ontario was produced for the Soils Section, Research Branch. The map, catalogued as S165 portrays soil types in the Kenora-Rainy River area south of latitude 51°. 3,000 copies were lithographed in seven colours.

A map folder "Summary of Hunting Regulations" was designed, drawn and printed for the Wildlife Section of the Fish and Wildlife Branch. Maps were employed to illustrate the various hunting seasons. One million copies were lithographed in three colours.

Preliminary maps showing locations of Dams within the Province were compiled, drawn and reproduced for use during Canada-U.S.A. Great Lakes Conference. Four classifications of dams were shown and indexed at 16 miles to 1 inch for Southern Ontario and 32 miles to 1 inch for Northern Ontario. 300 copies of each were lithographed in black only.

The 1960 edition of Map 32A "Districts of Algoma and Sudbury" on a scale four miles to one inch was reprinted without revision; 3,730 copies were lithographed in 7 colours.

Map 47A "Algonquin Provincial Park" was completely recreated and ready for printing. Hill shading was employed on this map to portray the land forms—a feature that will be of particular value to those travelling the interior. This is the first map to be completely scribed by the Department.

Work commenced on Map S265 "Thunder Bay" the second of the Surficial Geology series.

A map of the North Georgian Bay Recreation Area on a scale four miles to one inch was commenced for the Parks Branch. The new map will be known as 65A to be printed in 3 colours.

A map, suitable for newspaper reproduction was prepared for the London Free Press to illustrate conservation projects within Southwestern Ontario.

Relief drawings were prepared showing the drainage systems of the Serpent River to assist in conferences pertaining to water contamination in the Elliot Lake vicinity.

### EDITING OF GEOGRAPHICAL NOMENCLATURE ON MAPS

Editing of geographical nomenclature to be approved for use on official maps was proceeded with in conjunction with the Canadian Permanent Committee on Geographical Names.

The number of maps and charts in the following categories were examined:

National Topographic 1:25,000 .....	16
National Topographic 1:50,000 .....	10
National Topographic 1:250,000 .....	3
National Topographic 1:500,000 .....	21
Canadian Hydrographic Service, Marine Charts .....	2

In addition, some 12 maps to be produced by Provincial mapping units were examined.

Continuing revision to the Geographic Index resulted in the revision to, and addition of 7,200 cards, many being the result of the intensive search made earlier in the compilation of nomenclature for the Southern Ontario map.



# ENGINEERING SECTION

## Water Resources Management

### APPROVAL OF DAMS

Approval was granted for the construction of 23 dams during the fiscal year April 1, 1964 to March 31, 1965. At the year end there were 44 applications for approval requiring further examination of plans.

### LICENCES OF OCCUPATION

One licence of occupation issued during the fiscal year for a damsite and flooding rights.

Four licences of occupation were cancelled; three being for log-driving dams which are no longer required by the licencees and one was cancelled in order to issue a new licence to run conterminous with a water power lease.

### WATER POWER LEASE AGREEMENTS

Water Power Lease Agreement No. 69 issued to the Huronian Company Limited for Big Eddy and High Falls Generating Stations on the Spanish River. This is a renewal of Water Power Lease Agreement No. 20 which had expired.

The implementation of a new rental rate structure for privately owned power developments which was approved by Treasury Board on January 29, 1964, proceeded and work progressed on the renewal and revision of nine agreements which have expired.

Applications for six new water power lease agreements for new power developments were being dealt with at the end of the fiscal year.

The installed capacity in horsepower of all plants under Crown Lease is now 4,673,420 h.p.

### DAM RECONSTRUCTION

The reconstruction of ten dams to be carried out by the Department of Public Works during the year was recommended, continuing the program of rebuilding abandoned logging and old mill dams in the interests of forest protection, conservation and fish and wildlife propagation. Information on the desired regulated water level, hydrological and historical data was supplied to Public Works engineers to assist in designing the new dams.

Seven of the projects were completed and the operation of the dams became the responsibility of this Department.

Six field trips were made to inspect the condition of dams, investigate complaints in regard to water levels and to attend meetings to discuss the operation of dams.

### HATCHERY DESIGN AND CONSTRUCTION

Conversion of the old ponds at the Mount Pleasant hatchery, near Brantford, into a public fishing area was completed. The three new, large, attractive ponds will be opened to the public in the Spring of 1965.

Construction of the new trout rearing station at Normandale was completed and the ponds were placed in service. Erection of the new hatchery building was commenced and completion is anticipated during the Summer of 1965.

Preliminary planning was completed for the reconstruction of the North Bay (Balsam Creek) hatchery and trout rearing station.

A small dam was reconstructed in the Vivian Forest.

## BUILDINGS OR SERVICE IMPROVEMENTS

Forty-nine "A" Capital Projects were carried out or undertaken which included the Bancroft Chief Ranger Office Building and boat slip, a new district office at Cochrane, a new Chief Ranger maintenance building at Fort Frances, a sewage disposal system at Lake of Two Rivers Camping Grounds, and a domestic water and irrigation system at the Orono Tree Nursery. "ALF" projects undertaken included the Nancy Island suspension foot-bridge at Wasaga Beach Provincial Park, a Water Supply Ssystem . . . Park and a residence for the Director of The Ontario Forest Ranger School.

## ACCESS ROADS

Approval for the expenditure of \$393,000 was granted for the maintenance of 1,130 miles of access roads throughout the province. These roads were maintained only for programmes of the department.

One hundred and forty work permits for the construction of access roads were processed.

## AGRICULTURAL LAND

The fiscal year ending March 31st, 1965

Administrative District	Sales		Cancellations		Patents	
	No.	Acres	No.	Acres	No.	Acres
Cochrane .....	3	321.25	6	556.25	7	644.773
Fort Frances .....	1	159.00			3	361.00
Geraldton .....			1	46.50		
Kapuskasing .....	2	247.00	8	716.00	16	1383.72
Kemptville .....					1	73.00
Kenora .....			2	200.00	8	1193.758
North Bay .....	2	30.57	4	351.17	3	166.73
Parry Sound .....			1	1.00	3	418.22
Port Arthur .....			2	317.50	1	160.00
Sault Ste Marie .....			1	160.00		
Sudbury .....	3	271.40	11	1323.75	11	1341.458
Swastika .....	3	205.25	12	1106.00	7	553.64
Tweed .....	2	150.00			1	100.00
<b>TOTALS</b> .....	<b>16</b>	<b>1384.47</b>	<b>48</b>	<b>4778.17</b>	<b>61</b>	<b>6396.299</b>
Swastika University Patent .....					1	72.00
	<b>16</b>	<b>1384.47</b>	<b>48</b>	<b>4778.17</b>	<b>62</b>	<b>6468.299</b>

# SUMMER RESORT

The Fiscal Year Ending March 31st, 1965

Administrative District	Sales		Cancellations		Assignments		Patents	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Chapleau	3	2.23					7	6.19
Cochrane	16	10.663					19	12.09
Fort Frances	47	42.15	1	2.00	1	.89	42	41.50
Geraldton	15	10.56					12	13.99
Gogama	26	25.27					6	8.43
Kapuskasing	4	4.13	2	2.381			8	7.690
Kemptville	6	5.69	1	1.24			5	4.51
Kenora	111	104.015	1	1.16			115	112.07
Lake Erie	2	.39					2	.39
Lake Simcoe	3	3.32					26	22.99
Lindsay	30	24.525	2	1.35			64	55.818
North Bay	54	48.876	1	2.00			60	59.19
Parry Sound	230	215.617	4	3.268	1	1.03	281	274.679
Pembroke	15	15.68	2	1.62			20	26.879
Port Arthur	40	34.77	4	3.16	1	6.210	26	23.27
Sault Ste Marie	20	21.054	4	5.096			33	45.98
Sioux Lookout	5	9.00					8	13.38
Sudbury	62	58.073	4	3.691			94	96.757
Swastika	13	8.98					16	11.17
Tweed	173	173.36	5	4.95			121	133.811
White River	6	5.60	1	.93			12	9.73
TOTALS	881	823.953	32	32.846	3	8.130	977	980.514

## LAND FOR SPECIAL USE

The fiscal year ending March 31st, 1965

Administrative District	Sales		Cancellations		Patents		Quit No.	Claim	Deeds Acres
	No.	Acres	No.	Acres	No.	Acres			
Chapleau	1	.46			1	1.84			
Cochrane	2	3.926			4	9.053			
Fort Frances	2	2.574			4	9.151			
Geraldton	2	.94	2	17.29	3	22.84			
Kapuskasing	1	.69			9	15354.42			
Kemptville					4	4.796	1		4.00
Kenora	15	43.760	1	139.65	15	45.224			
Lake Erie					2	115.784	2		3.26
Lake Huron	1	100.00			3	122.106			
Lake Simcoe	3	2.009	1	.51	3	2.009			
Lindsay	2	5.045			2	5.045	4		295.00
North Bay	3	41.84			5	42.36			
Parry Sound	10	8.343	1	96.83	16	49.497			
Pembroke	4	1.943			4	3.47			
Port Arthur	4	49.950			6	45.540			
Sault Ste Marie	7	6.136	1	5.05	5	10.336			
Sioux Lookout	5	4.30			2	3.00			
Sudbury	10	8.040	1	93.00	17	138.506			
Swastika	5	10.866	1	80.00	6	20.585			
Tweed	8	331.90			14	593.723	15		1614.109
White River	1	.07			3	68.16			
TOTALS	86	622.792	8	432.33	128	16667.445	22		1916.369

# CITIES, TOWNS AND TOWNPLOTS

## The fiscal year ending March 31st, 1965

Administrative District	No.	Sales		Cancellations		Assignments		Patents		Quit Claim No.	Deeds	
		Acres		No.	Acres	No.	Acres	No.	Acres		No.	Acres
Cochrane	2	.184						2	.29			
Geraldton	4	.649	1	.20	1	.394		9	1.552			
Gogama	3	.89	4	1.11				2	.58			
Kapuskasing	5	2.33	2	.438				6	2.41			
Kenora								1	.23			
Lake Huron								1	3.00	1	.13	
North Bay								1	.04			
Parry Sound	1	.50										
Pembroke	2	.706						6	2.162			
Port Arthur								1	1.00			
Sioux Lookout			1	.17				2	1.24			
Sudbury	3	.49						4	.47			
Swastika	5	.871	3	.592				2	.285			
White River	2	.52	2	.33				8	1.76			
TOTALS	27	7.140	13	2.840	1	.394	45	15.019	1	.13		

## FREE GRANT LAND RETURNED SOLDIERS AND SAILORS The fiscal year ending March 31st, 1965

Administrative District	Cancellations		Patents	
	No.	Acres	No.	Acres
Cochrane			1	77.20
Parry Sound	1	200.00		
Swastika	2	318.00	4	476.75
TOTALS	3	518.00	5	553.95

## FREE GRANT LAND The Fiscal Year Ending March 31st, 1965

Administrative District	Cancellations		Patents	
	No.	Acres	No.	Acres
Kenora	2	157.00		
Parry Sound	12	1331.00	1	199.5
Pembroke			1	65.00
Port Arthur	5	635.00	3	340.89
Sudbury			1	160.00
Swastika	1	80.00		
TOTALS	20	2203.00	6	765.39

## LEASES The fiscal year ending March 31st, 1965

Administrative District	Leases		Cancellations	
	No.	Acres	No.	Acres
Cochrane	2	100.449	1	16.23
Geraldton	5	48.031	2	1.55
Gogama	1	1.47		
Kapuskasing	1	3.17	1	1.280
Kenora	4	41.54	3	7.75
Lake Erie	81	14.31	81	14.65
Lake Simcoe	4	84.95	1	35.08
Parry Sound	3	53.283	1	3.51
Pembroke	12	12.0733	17	111.5333
Port Arthur			1	1291.28
Sault Ste Marie	6	1.257	2	—
Sudbury	2	11712.48	1	11793.06
Swastika	1	2.889		
White River	5	16.805		
TOTALS	127	12092.7073	111	13275.9233



# LICENSES OF OCCUPATION

The fiscal year ending March 31st, 1965

Administrative District	Leases		Cancellations	
	No.	Acres	No.	Acres
Chapleau .....			3	202.93
Cochrane .....	1	—	3	258.43
Fort Frances .....			2	3.055
Geraldton .....	1	240.00	8	1190.09
Kemptville .....			3	0.34
Kenora .....	2	19.166	5	243.8833
Lake Erie .....	1	.32	5	1.6074
Lake Huron .....	1	2.29	3	1.256
Lake Simcoe .....	8	46.597	10	57.889
Lindsay .....	3	2.14	1	—
North Bay .....	3	5.96	4	11.37
Parry Sound .....	4	8.65	3	3.00
Pembroke .....			1	—
Port Arthur .....	2	837.03	4	1078.50
Sault Ste Marie .....	1	11.79		
Sioux Lookout .....	1	.06		
Sudbury .....	1	.706	4	86.155
Swastika .....	1	18.00		
Tweed .....	1	2152.477	4	68.00
White River .....	1	5.155	3	11.647
TOTALS .....	32	3350.341	66	3218.1527

# PATENTS OFFICE

Statement of Patents, etc. issued during the year ending March 31st, 1965

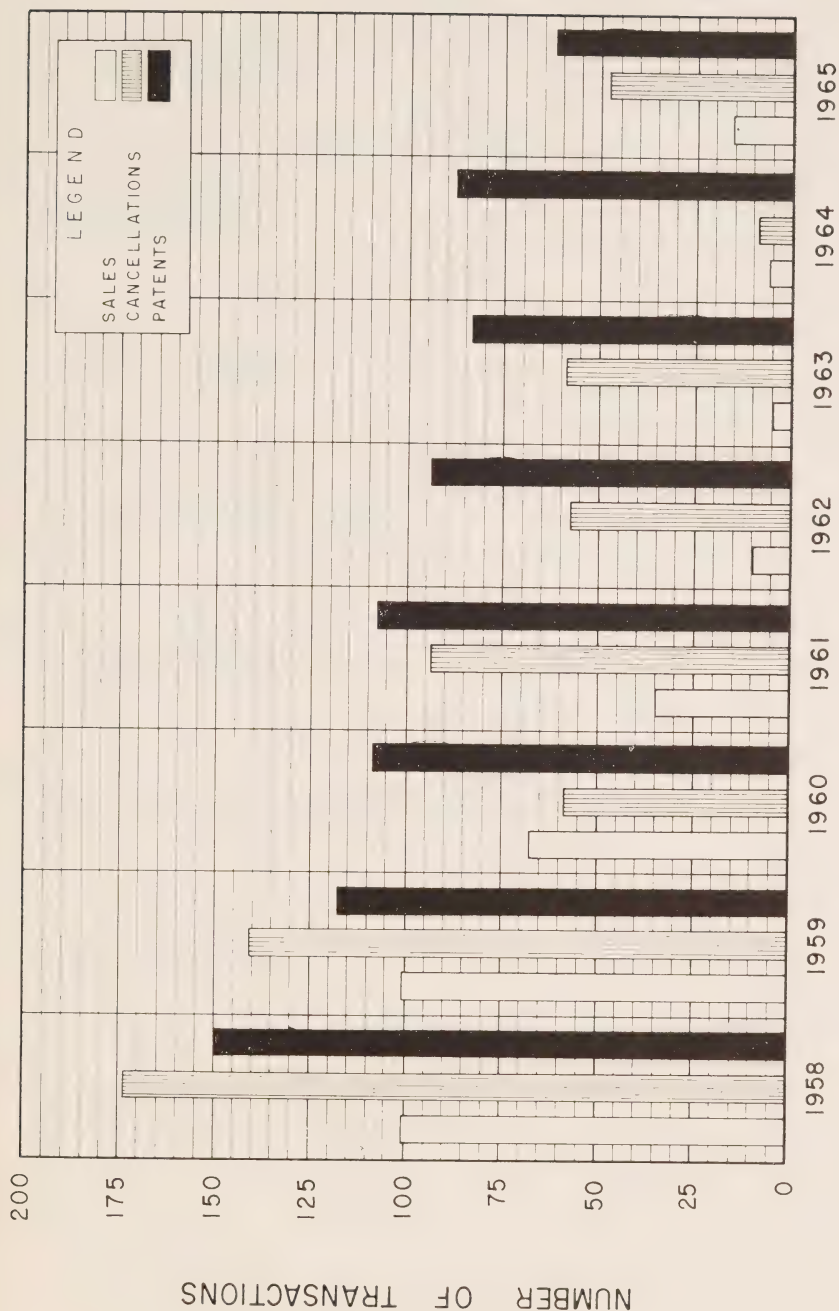
Public Land Patents .....	1039	
Free Grant Patents .....	6	
Free Grant Patents Soldiers & Sailors .....	5	
Patents (Town Lots) .....	46	
Miscellaneous Documents .....	128	
Release of Pine .....	5	1229
Crown Leases .....	27	
Algonquin Park Leases .....	12	
Rondeau Park Leases .....	81	
Water Power Lease Agreements .....	7	127
Licences of Occupation .....	32	32
Licences of Occupation Cancelled .....	66	
Crown Leases Cancelled .....	111	177

# LAND USE PERMITS ISSUED (From April 1st, 1964 to March 31st, 1965)

Administrative District	Hunt Camp No.	Hunt Camp Acres	Trapper's Camp No.	Trapper's Camp Acres	Residence No.	Residence Acres	Agricultural No.	Agricultural Acres	Marsh Hay No.	Marsh Hay Acres	Mill Site No.	Mill Site Acres	Sugar Bush No.	Sugar Bush Acres	Boat Houses No.	Boat Houses Acres	Miscellaneous No.	Miscellaneous Acres	Departmental Houses No.
Chapleau	36	35.50	42	41.50	21	19.25	1	5.00			12	101.50			3	1.50	29	1861.50	145
Cochrane	78	66.00	3	3.00	28	24.00	6	217.00	9	225.00	5	35.00			3	.75	21	1293.00	63
Fort Frances	9	9.00	37	12.75	1	.25			4	100.00	8	69.00			27	6.75	26	811.50	132
Geraldton	21	16.00	11	10.00	65	40.25	4	20.50							10	3.00	90	8426.25	120
Gogama	42	42.00	18	18.00	12	9.50					13	107.50			2	.50	10	917.25	175
Kapuskasing	31	27.50	24	18.75	30	19.25	5	91.00	14	262.00	13	296.75			4	.75	69	3537.00	164
Kemptville	9	9.00			1	1.00													64
Kenora	9	10.00	30	27.00	11	9.00	1	32.00			16	59.50			20	6.75	45	1340.25	115
Lake Erie															131	32.75	81	20.25	136
Lake Huron																	1	.25	85
Lake Simcoe	1	1.00			9	3.75	1	185.00	2	96.00					11	6.50	9	14.50	233
Lindsay	287	276.25			6	4.00			2	65.00					9	2.25	6	9.25	196
North Bay	207	208.00	3	2.50	17	11.50	1	1.00	2	12.00	12	82.00	2	6.00	35	9.00	28	599.00	165
Parry Sound	519	514.00	12	11.25	32	25.00			1	10.00	7	58.50	3	31.00	39	10.25	36	244.00	117
Pembroke	299	295.50			11	6.00					14	273.75					73	98.75	169
Port Arthur	10	9.25	5	5.00	1	1.00	1	10.00	1	1.00	1	5.00					20	878.00	170
Sault Ste Marie	53	48.00	28	26.00	3	3.00	2	4.00			4	40.00	2	6.00	1	.75	18	263.50	126
Sioux Lookout	27	21.00	37	36.50	25	19.50	1	3.00			17	89.25			5	1.50	74	5957.50	259
Sudbury	244	244.00	12	12.00	25	22.50	10	119.00	5	150.00	16	292.00	5	116.00	82	22.00	21	791.50	150
Swastika	26	28.50	7	7.00	27	19.50	11	256.00	4	60.00	20	132.00			11	3.00	14	545.00	44
Tweed	483	474.50			6	7.00	1	7.50	2	65.00	4	42.75			8	1.75	20	287.00	87
White River	4	4.00	27	18.00	18	11.25	2	9.00			1	30.00			5	4.75	22	701.00	231
TOTALS	2395	2339.00	296	249.25	349	256.50	47	960.00	46	1046.00	163	1714.50	12	159.00	415	117.75	713	28596.25	3146

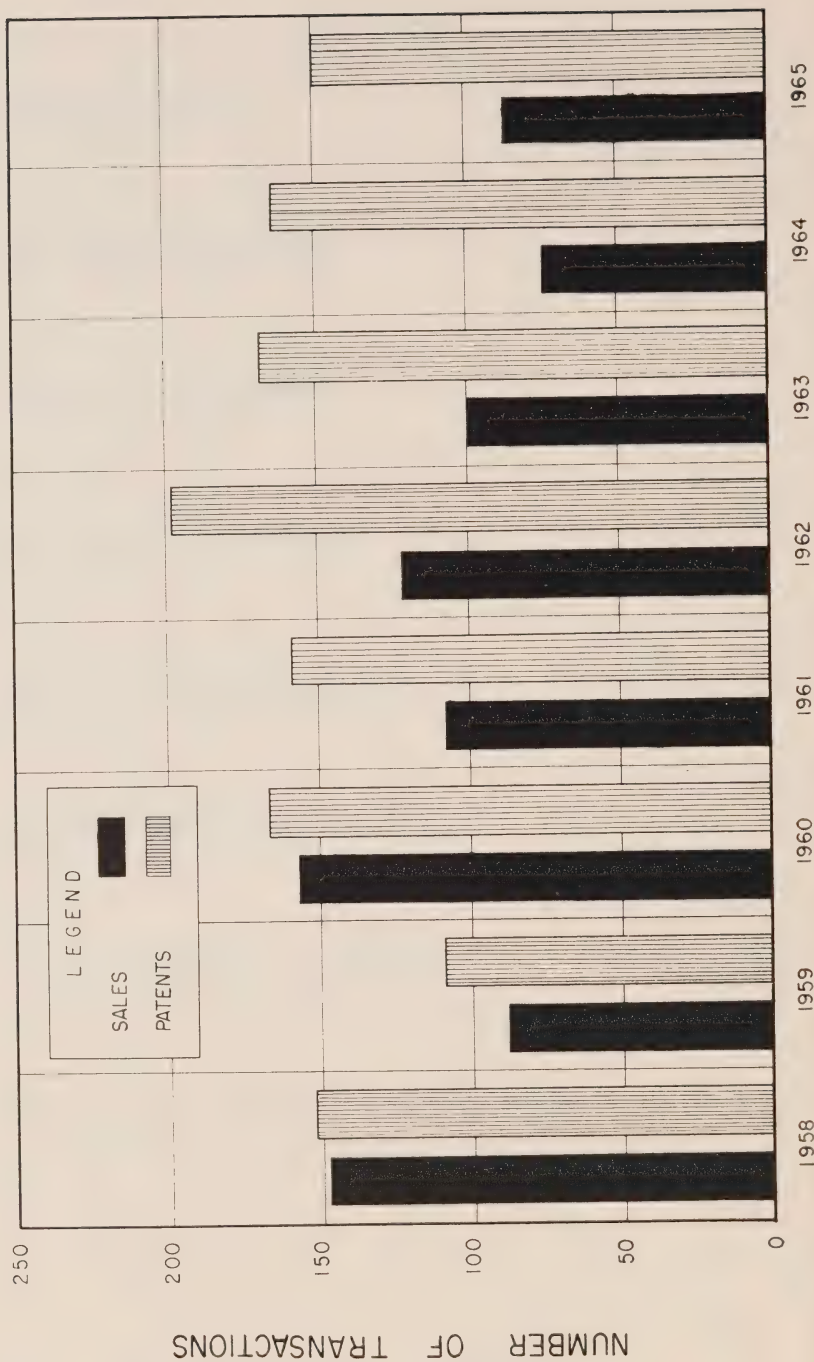
TOTAL NUMBER OF PERMITS — 4436 (not including Departmental Houses).

TOTAL NUMBER OF ACRES — 35,438.25



FISCAL YEAR ENDING MARCH 31st.

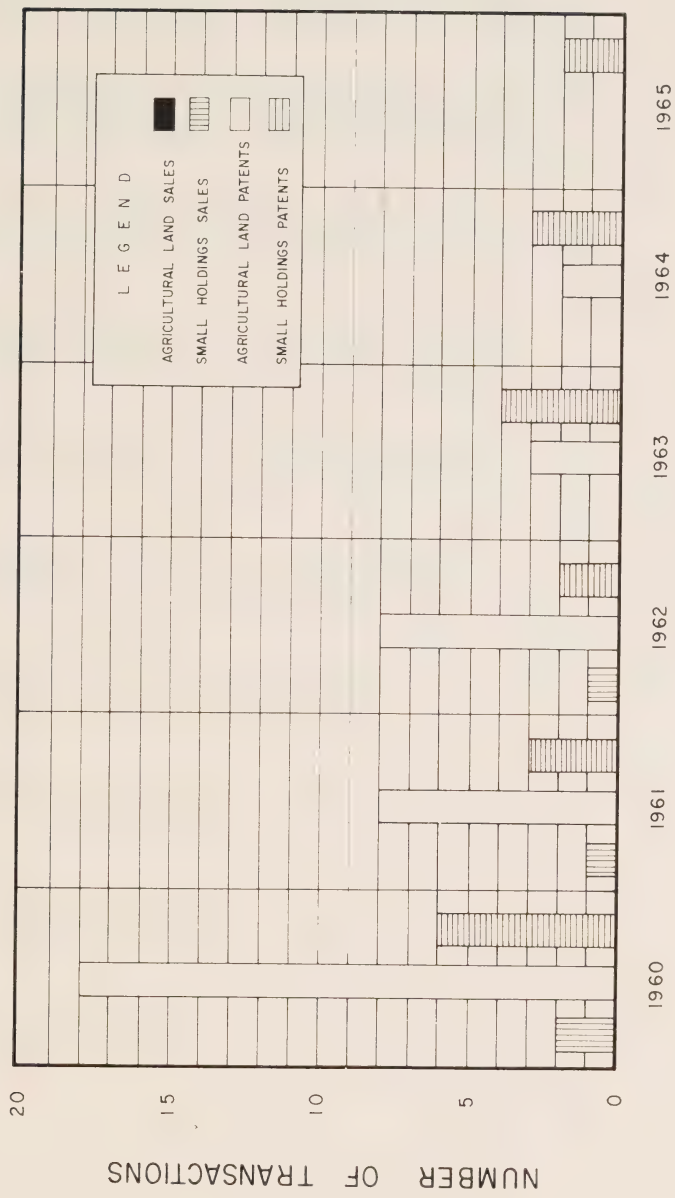
# LANDS FOR SPECIAL USE





# THE ONTARIO DOMINION - PROVINCIAL AGREEMENT

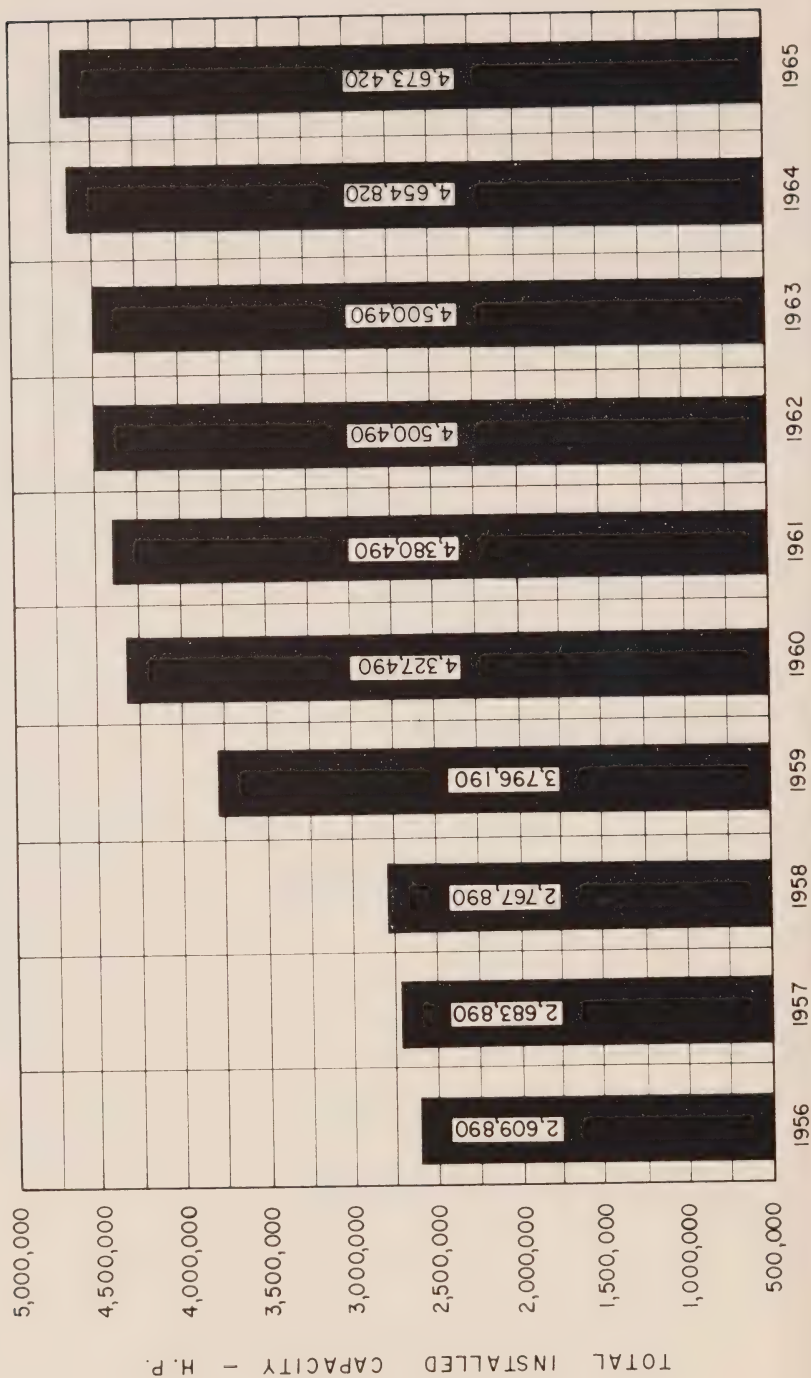
## SECTION 38 OF THE VETERANS LAND ACT

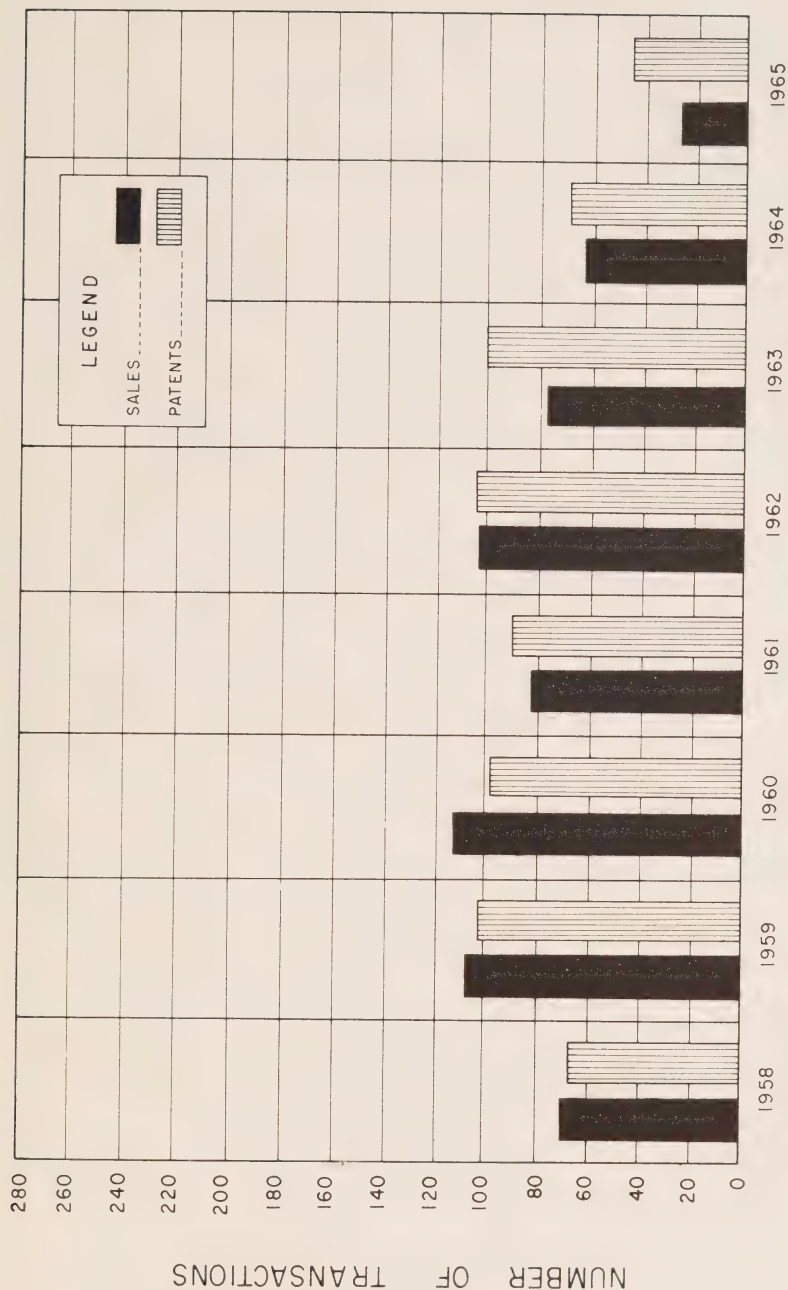


FISCAL YEAR ENDING MARCH 31st.

# INSTALLED CAPACITY IN HORSE-POWER

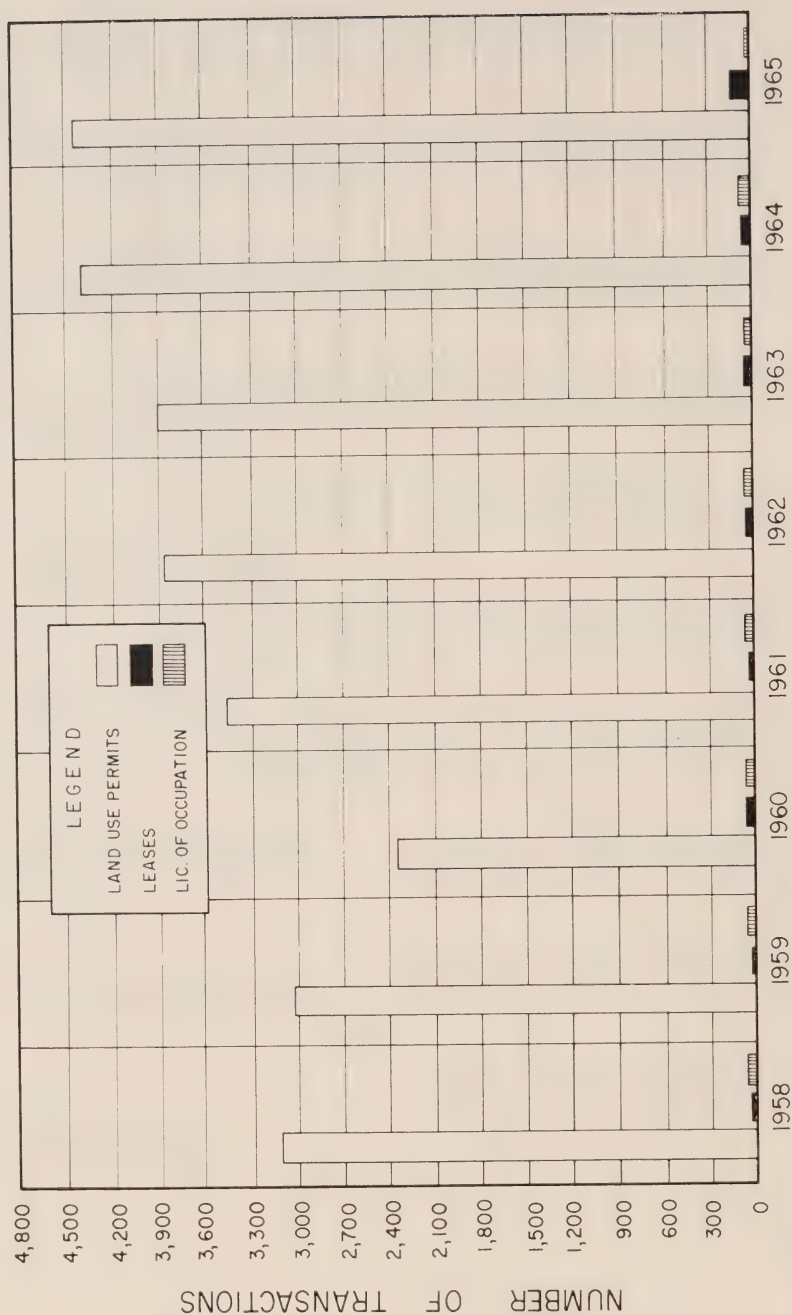
# OF ALL PLANTS UNDER CROWN LEASE FOR FISCAL YEARS 1956-1965





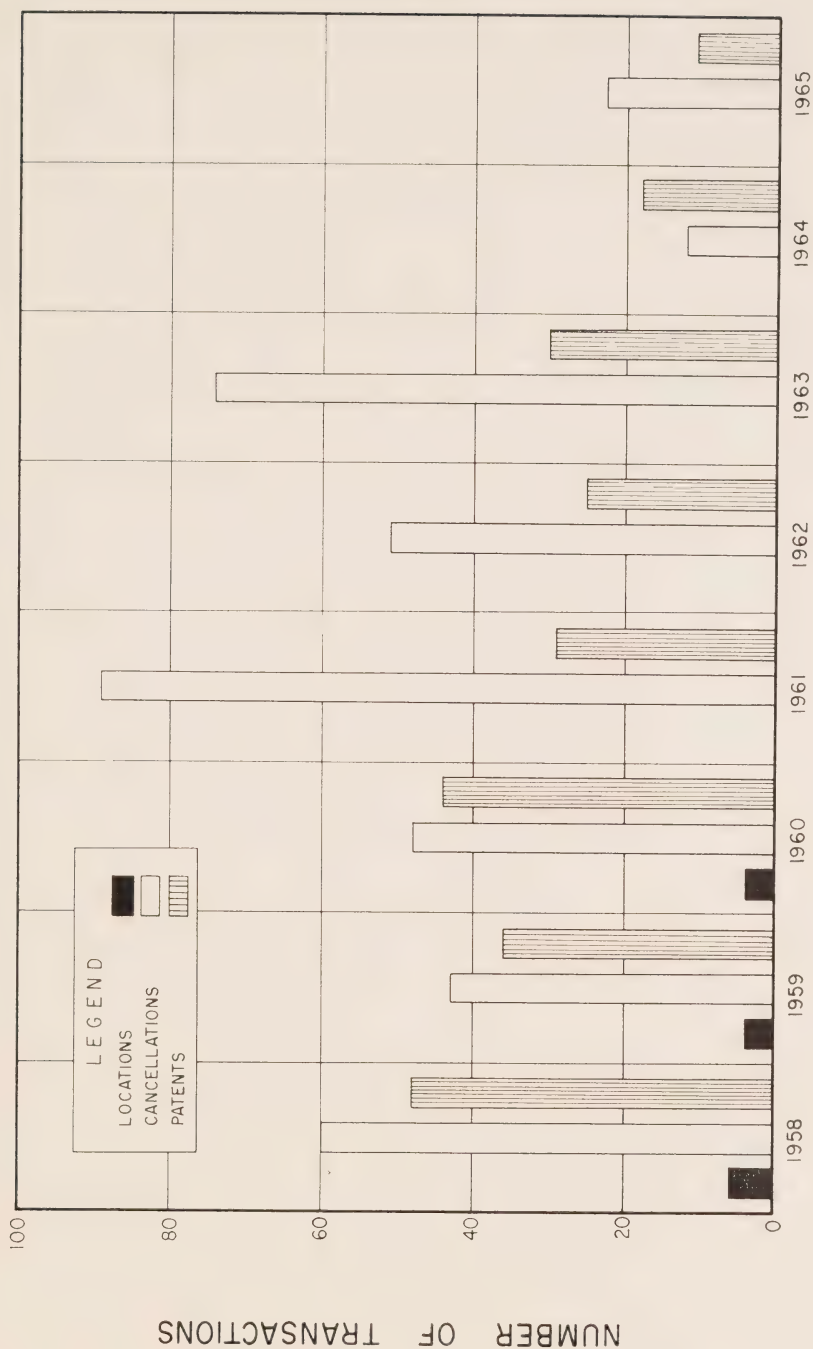
FISCAL YEAR ENDING MARCH 31st.

# LAND USE PERMITS, LEASES AND LICENCES OF OCCUPATION ISSUED

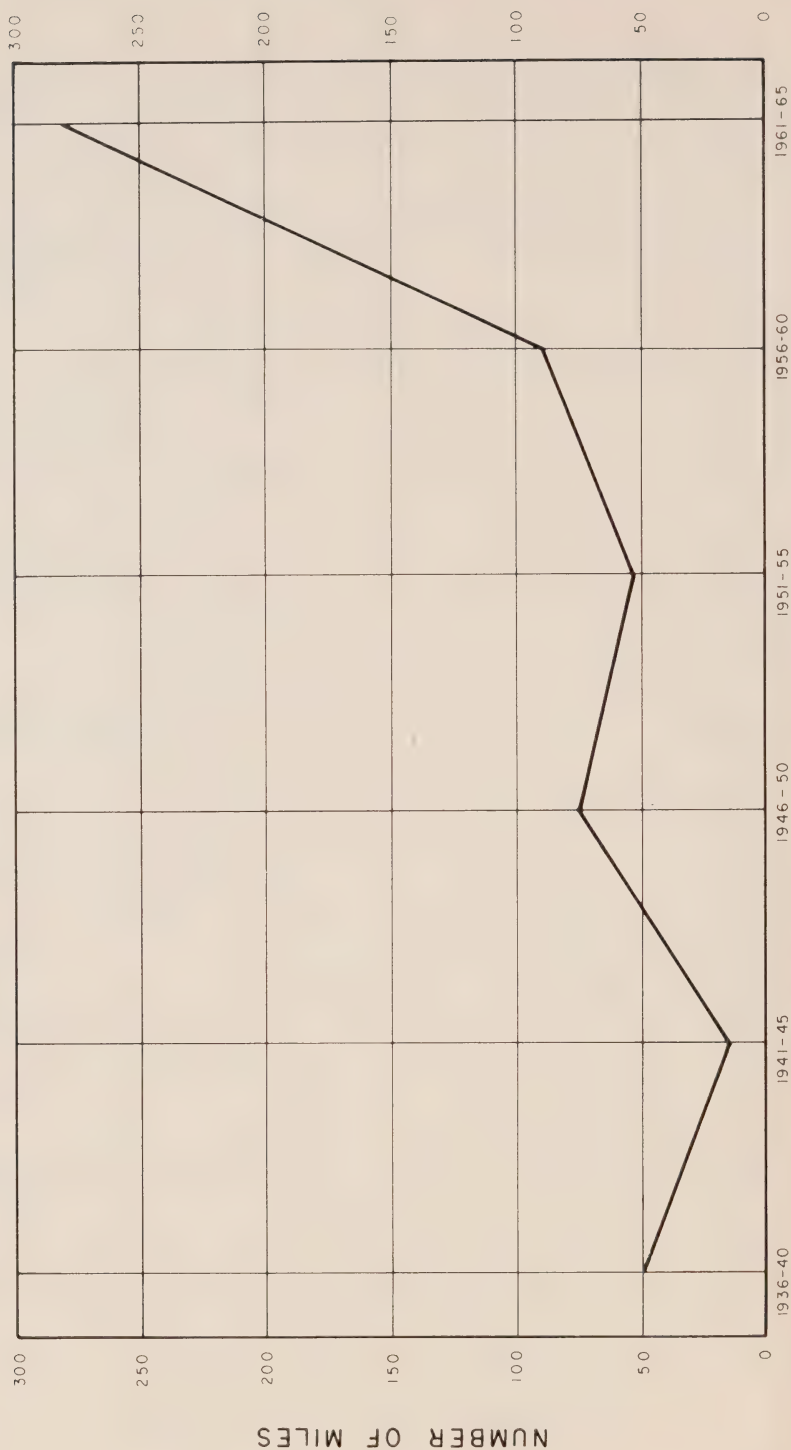




# AGRICULTURAL LANDS IN FREE GRANT TOWNSHIPS INCLUDING SOLDIERS' LAND

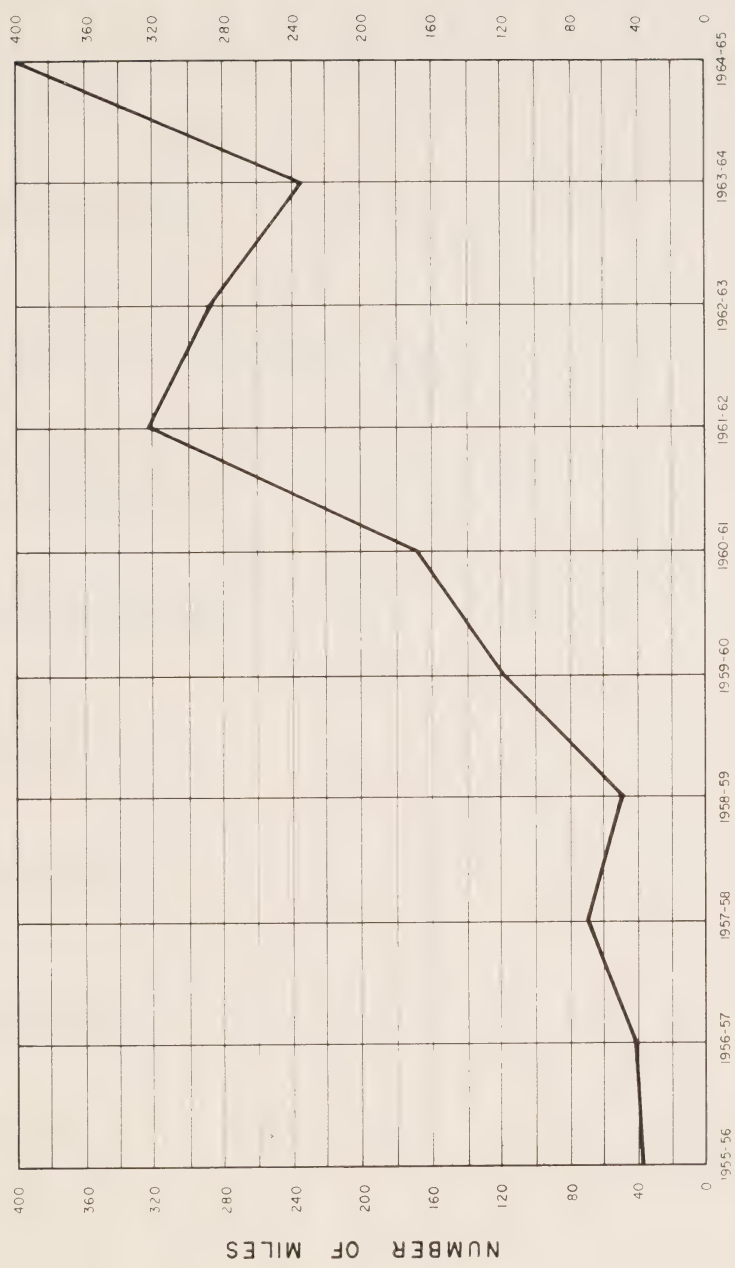


# TREND OF RETRACEMENT SURVEYS



# TREND OF RETACEMENT SURVEYS

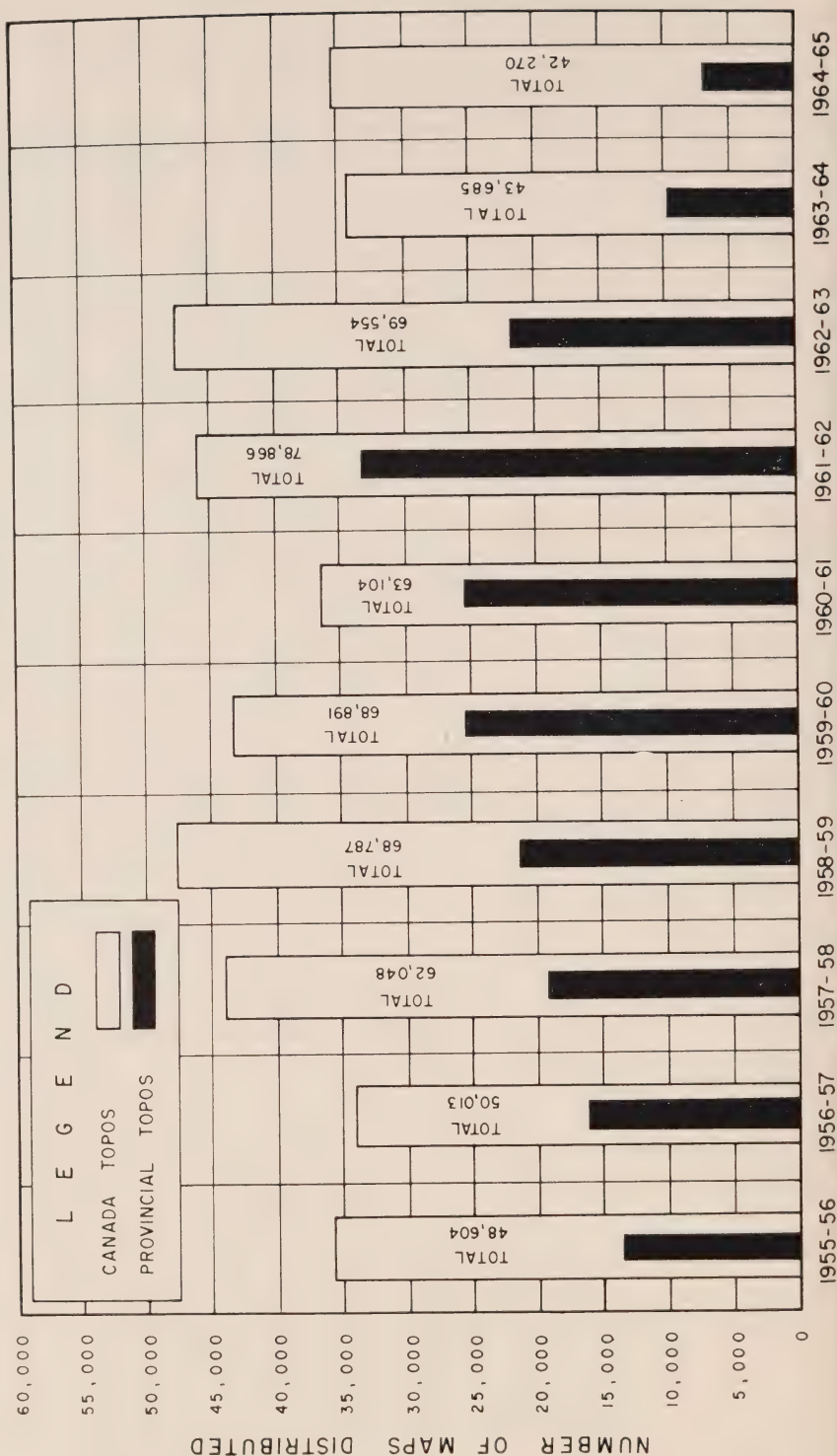
PREPARED FROM MILEAGE FOR THE PAST TEN YEARS  
1955-56 to 1964-65



FISCAL YEAR ENDING MARCH 31 st.

# TREND OF MAP DISTRIBUTION

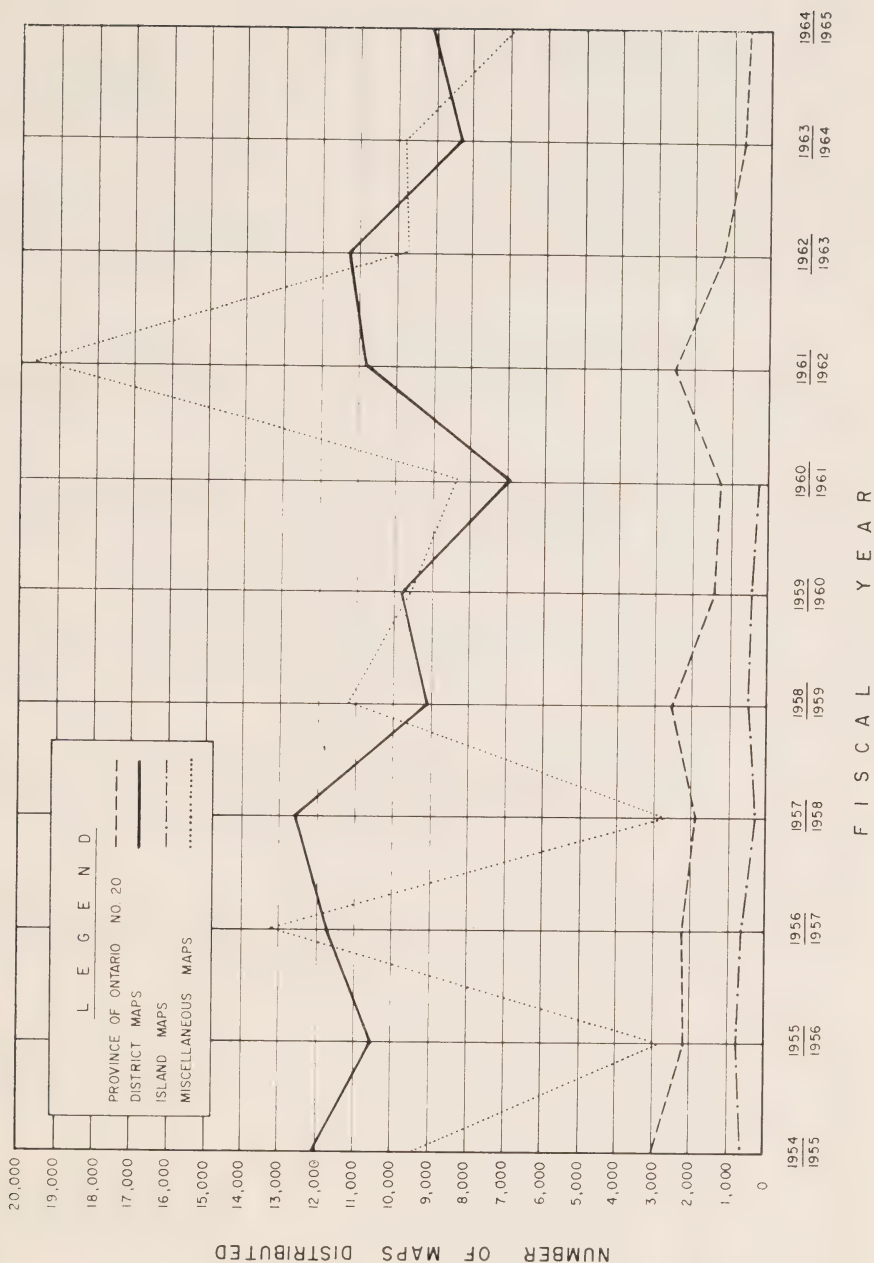
## NATIONAL TOPOGRAPHIC SERIES





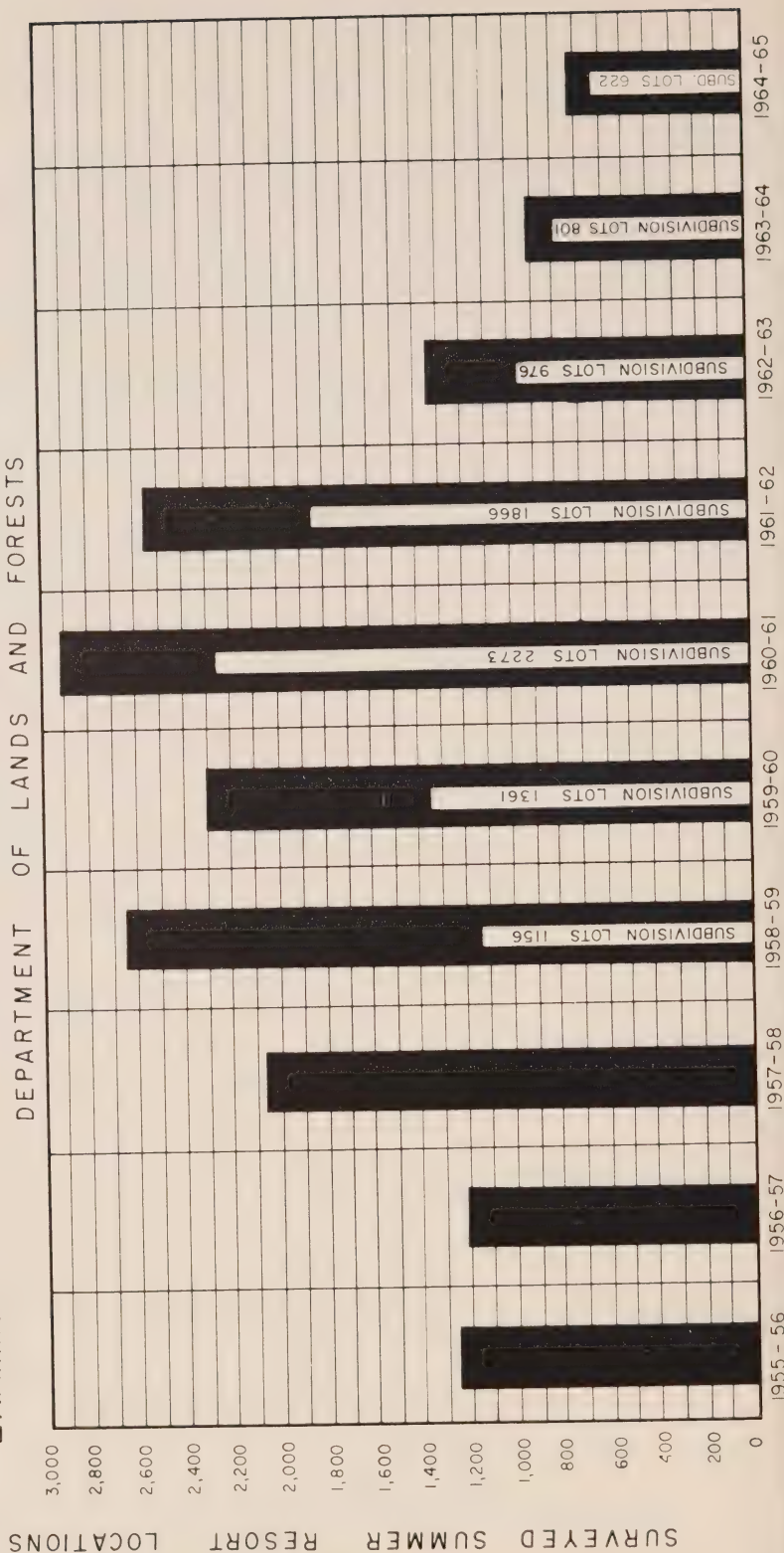
# TREND OF MAP DISTRIBUTION

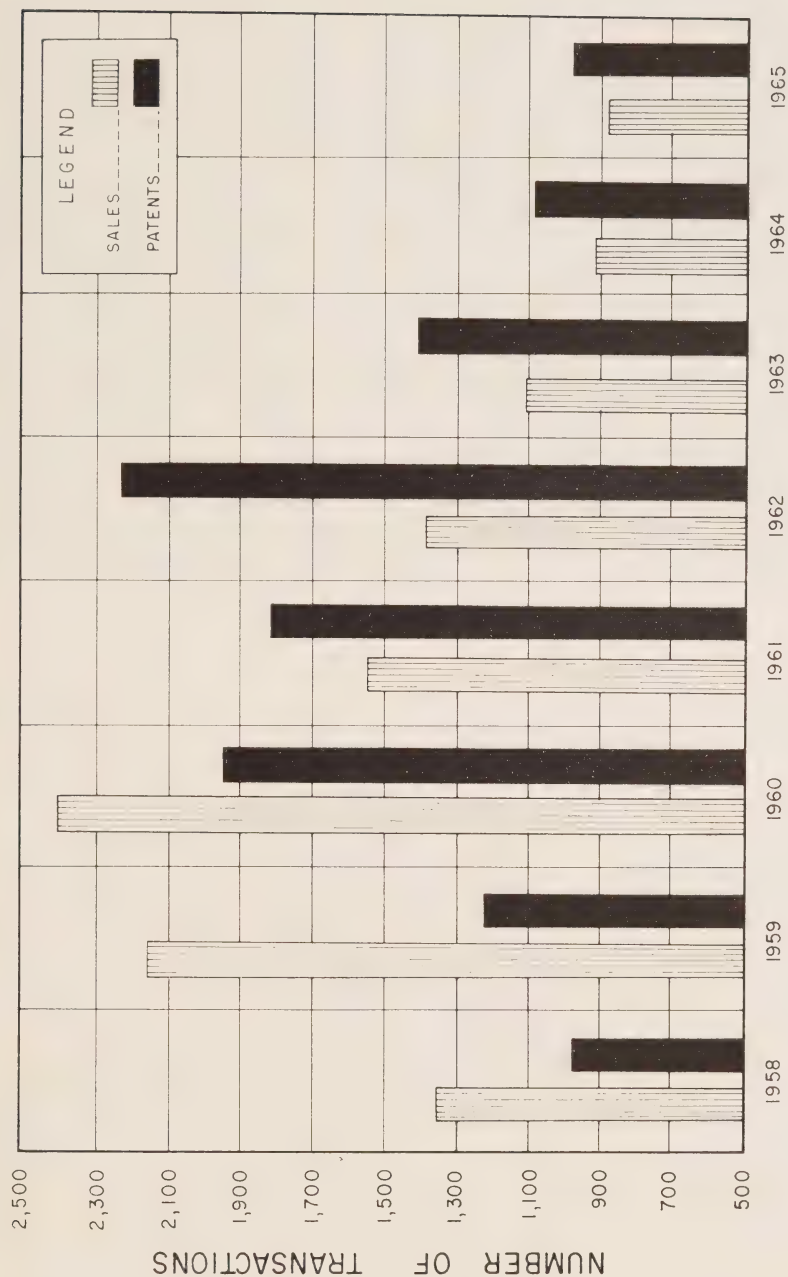
PROVINCIAL ISSUES



# SURVEYED SUMMER RESORT LOCATIONS ON CROWN LAND

EXAMINED BY THE LANDS & SURVEYS BRANCH, SURVEYS SECTION  
DEPARTMENT OF LANDS AND FORESTS





FISCAL YEAR ENDING MARCH 31st.





The penalty for not obeying the hunting rules . . . confiscated rifles and shotguns.



A conservation officer checks the bag limit of pheasant hunters after a day's shooting on Pelee Island.



## LAW BRANCH

### Responsibilities of Law Branch

1. Advising the branches and field offices upon the legal position of the Department in all matters affecting it.
2. Consulting and working with federal officials on matters concerning fisheries, federal canal systems, harbours and lands, Indian reservations and rights of Indians, particularly regarding hunting and fishing.
3. Establishing and reviewing Department policy in various fields, whether such policies are to take the form of legislation, regulations or administrative policy. Integrating such policies into those of the Government.
4. Interpretation of Statutes and regulations.
5. Maintenance of records of Crown land including,
  - (a) advising the public and others on such records
  - (b) compilation of statistics and incidental correspondence
  - (c) cancellation of Crown land sales
  - (d) domesday books
  - (e) forfeitures
  - (f) leases
  - (g) licences
  - (h) preparation and engrossing of documents disposing of Crown land including,
    - (i) leases
    - (ii) letters patent
    - (iii) licences of occupation
6. Preparation and processing of
  - (a) agreements
  - (b) briefs, opinions and memoranda on special subjects
  - (c) leases
  - (d) legislation
  - (e) licences
  - (f) office consolidations of statutes and regulations
  - (g) pleadings
  - (h) recommendations to Council
  - (i) regulations under the various statutes administered by the Department.
7. Services — miscellaneous
  - (a) collection of bad accounts (i.e. accidents involving Department vehicles, unpaid accounts, land tax arrears, etc.)
  - (b) conducting litigation
  - (c) conveyancing
  - (d) representing the Department as Counsel in Provincial Land Tax Appeals
  - (e) settlement of claims and disputes including grievances of Department employees
  - (f) title searching.

## LAW BRANCH

Supervisor: G. H. FERGUSON

SOLICITOR:  
W. E. D. PETERS

PATENTS OFFICE  
Supervisor: B. P. FOSTER

SECRETARY  
Stenographic Staff

## LEGISLATION

At the Session of the Legislature, which convened on the 20th day of January, 1965, and prorogued on the 22nd day of June, 1965, amendments were made to The Loggers' Safety Act, 1962-63 and The Public Lands Act. Also The Ottawa River Water Powers Act, 1965 was passed.

### THE LOGGERS' SAFETY AMENDMENT ACT, 1965

The clause defining "Department" as the Department of Labour was repealed and section 1a was added to the Act to provide that the Act is under the control and direction of a member of the Executive Council designated so to do by the Lieutenant Governor in Council.

The procedure respecting the appointment of officers under the Act was simplified.

Subsection 1 of section 9 was amended to provide that notices of accidents shall be sent to the chief officer where the accident prevents a logger from working for at least three days.

This Act came into force on the 14th day of April, 1965, the day on which it received Royal Assent.

### THE PUBLIC LANDS AMENDMENT ACT, 1965

Section 37 of The Public Lands Act was re-enacted to provide for the mailing of all instruments granting title to unpatented public lands under this or any other Act to the proper Local Master of Titles or Registrar of Deeds. This change in procedure will take effect on proclamation.

Subsection 1a was added to section 69 of the Act to authorize a procedure to permit the release of the reservation in letters patent reserving free access to the shore in cases where the Minister is of the opinion that the reservation no longer serves a useful purpose or that the release is in the public interest.

This Act came into force on the 14th day of April, 1965, the day on which it received Royal Assent.

### THE OTTAWA RIVER WATER POWERS ACT, 1965

This Act confirmed, insofar as Ontario has legislative authority, an agreement between Ontario, Quebec, Ontario Hydro and Hydro-Québec which amends a 1943 agreement (confirmed by The Ottawa River Water Powers Act, 1943) respecting the development of the water powers of the Ottawa River by providing for a higher dam at the Cave & Fourneaux site near Mattawa.

This Act came into force on the 14th day of April, 1965, the day on which it received Royal Assent.

## REGULATIONS

Forty regulations made under the authority of the Statutes Administered by the Department of Lands and Forests were approved and filed during the fiscal year from April 1st, 1964 to March 31st, 1965.

The following are the regulations which were approved and filed:

#### The Crown Timber Act

O.Reg. 117/64 — Amending Reg. 69 of  
R.R.O. 1960

— Scalers' Licences.

### **The Forest Fires Prevention Act**

O.Reg. 76/64 — Amending Reg. 184 of R.R.O. 1960  
O.Reg. 142/64 — Amending Reg. 184 of R.R.O. 1960

— Fire Districts — Pembroke.

— Fire Districts — Sioux Lookout and Port Arthur.

### **The Game and Fish Act, 1961-62**

O.Reg. 82/64 — New and Revokes Reg. 204 of R.R.O. 1960, O.Reg. 171/61, 20/62, 87/62, 105/62, 131/62, 300/62 and 127/63  
O.Reg. 93/64 — Amending O.Reg. 82/64  
O.Reg. 94/64 — New and Revokes Reg. 193 of R.R.O. 1960  
O.Reg. 107/64 — Revokes O.Reg. 82/64 (part)  
O.Reg. 152/64 — New and Revokes O.Reg. 138/63, 255/63 and 344/63  
O.Reg. 153/64 — New  
O.Reg. 174/64 — Amending O.Reg. 82/64  
O.Reg. 177/64 — New and Revokes O.Reg. 195/63, 267/63, 273/63 and 297/63  
O.Reg. 184/64 — New and Revokes O.Reg. 141/63  
O.Reg. 192/64 — Amending O.Reg. 152/64  
O.Reg. 206/64 — Amending O.Reg. 189/63 and 299/63  
O.Reg. 250/64 — Amending O.Reg. 310/63  
O.Reg. 251/64 — Amending O.Reg. 286/63  
O.Reg. 260/64 — Amending O.Reg. 153/63  
O.Reg. 281/64 — Amending O.Reg. 286/63  
O.Reg. 286/64 — Amending O.Reg. 177/64  
O.Reg. 290/64 — Amending O.Reg. 189/63  
O.Reg. 292/64 — Amending O.Reg. 226/63  
O.Reg. 328/64 — Amending O.Reg. 229/63  
O.Reg. 343/64 — New and Revokes Reg. 190 of R.R.O. 1960  
O.Reg. 13/65 — New and Revokes O.Reg. 164/63  
O.Reg. 21/65 — Revokes O.Reg. 82/64 (part)  
O.Reg. 22/65 — New and Revokes Reg. 188 of R.R.O. 1960, O.Reg. 170/61, 305/61, 25/62, 204/62, 257/62 and 65/63  
O.Reg. 46/65 — New and Revokes Reg. 189 of R.R.O. 1960, O.Reg. 66/63 and 82/63  
O.Reg. 81/65 — Amending O.Reg. 82/64  
O.Reg. 82/65 — Amending O.Reg. 226/63

— Fish Sanctuaries — Waters Set Apart for Periods.

— Fish Sanctuaries — Waters Set Apart for Periods.

— Hunter Safety Training Courses.

— Fish Sanctuaries — Waters Set Apart for Periods.

— Open Seasons — Fur-bearing Animals.

— Open Seasons — Rabbit and Squirrel

— Fish Sanctuaries — Waters Set Apart for Periods.

— Open Seasons — Game Birds.

— Fire-arms — Sunday Hunting.

— Open Seasons — Fur-bearing Animals.

— Open Seasons — Deer, Moose and Black Bear.

— Hunting on Crown Lands — Township of Tosorontio.

— Hunting in Provincial Parks.

— Hunting by Aircraft.

— Hunting in Provincial Parks.

— Open Seasons — Game Birds.

— Open Seasons — Deer, Moose and Black Bear.

— Fish Sanctuaries — Waters Set Apart.

— Hunting Licences — Issuance.

— Furs — Trap-line Licences.

— Fishing Huts.

— Fish Sanctuaries — Waters Set Apart for Periods.

— Crown Game Preserves.

— Fishing Licences.

— Fish Sanctuaries — Waters Set Apart for Periods.

— Fish Sanctuaries — Waters Set Apart.

### **The Loggers' Safety Act, 1962-63**

O.Reg. 317/64 — New

### **The Provincial Land Tax Act, 1961-62**

O.Reg. 162/64 — Amending O.Reg. 343/62  
O.Reg. 339/64 — Amending O.Reg. 343/62

— General.

— General.

— General.

### **The Provincial Parks Act**

O.Reg. 110/64 — Amending Reg. 498 of R.R.O. 1960

— Designation of Parks.



O.Reg. 161/64 — Amending Reg. 498 of  
R.R.O. 1960  
O.Reg. 183/64 — Amending Reg. 498 of  
R.R.O. 1960  
O.Reg. 205/64 — Revokes Reg. 498 of  
R.R.O. 1960 (part)  
O.Reg. 71/65 — Amending Reg. 499 of  
R.R.O. 1960

— Designation of Parks.  
— Designation of Parks.  
— Designation of Parks.  
— General.

#### The Wilderness Areas Act

O.Reg. 89/64 — Amending Reg. 567 of  
R.R.O. 1960  
O.Reg. 229/64 — Amending Reg. 567 of  
R.R.O. 1960  
O.Reg. 259/64 — Amending Reg. 567 of  
R.R.O. 1960

— Wilderness Areas — Pukaskwa and  
Porphyry Island.  
— Wilderness Areas — Shoal Lake.  
— Wilderness Areas — Sankey Township,  
Whitefish Lake and Blair Township.

## ORDERS-IN-COUNCIL

Recommended By The Minister Of Lands And Forests  
During The Year 1964-65

### THE CROWN TIMBER ACT

#### *Numbers of Orders-in-Council*

1127/64;	2068/64;	3198/64;	12/65;
1128/64;	2073/64;	3201/64;	13/65;
1129/64;	2137/64;	3205/64;	125/65;
1130/64;	2209/64;	3206/64;	127/65;
1131/64;	2211/64;	3207/64;	128/65;
1161/64;	2212/64;	3241/64;	129/65;
1241/64;	2213/64;	3242/64;	130/65;
1244/64;	2252/64;	3244/64;	233/65;
1295/64;	2253/64;	3298/64;	238/65;
1296/64;	2254/64;	3355/64;	299/65;
1310/64;	2255/64;	3359/64;	351/65;
1311/64;	2258/64;	3505/64;	412/65;
1445/64;	2259/64;	3539/64;	496/65;
1449/64;	2260/64;	3540/64;	515/65;
1630/64;	2371/64;	3637/64;	591/65;
1638/64;	2372/64;	3638/64;	608/65;
1651/64;	2381/64;	3715/64;	617/65;
1652/64;	2382/64;	3717/64;	766/65;
1694/64;	2383/64;	3718/64;	769/65;
1695/64;	2402/64;	3755/64;	770/65;
1696/64;	2488/64;	3834/64;	771/65;
1697/64;	2532/64;	3836/64;	775/65;
1739/64;	2584/64;	3868/64;	779/65;
1741/64;	2585/64;	3871/64;	812/65;
1742/64;	2742/64;	3985/64;	876/65;
1783/64;	2743/64;	4009/64;	942/65;
1827/64;	2937/64;	4010/64;	943/65;
1857/64;	3085/64;	4074/64;	999/65;
1952/64;	3130/64;	4100/64;	1014/65;
1953/64;	3133/64;	4161/64;	1015/65;
1960/64;	3184/64;	4162/64;	

### THE EXECUTIVE COUNCIL ACT

#### *Numbers of Orders-in-Council*

1814/64;	2175/64;	2533/64;	3558/64;
2174/64;	2436/64;	2732/64;	613/65;

THE FINES AND FORFEITURES ACT  
*Numbers of Orders-in-Council*

3081/64;

THE FOREST FIRES PREVENTION ACT  
*Numbers of Orders-in-Council*

1150/64;

1869/64;

THE GAME AND FISH ACT, 1961-62  
*Numbers of Orders-in-Council*

1312/64;  
2067/64;  
2210/64;  
2435/64;

3078/64;  
3079/64;  
3107/64;  
3268/64;

3297/64;  
3433/64;  
4060/64;  
4190/64;

242/65;  
514/65;

THE HIGHWAY IMPROVEMENT ACT  
*Numbers of Orders-in-Council*

2404/64;

THE LAKE OF THE WOODS CONTROL BOARD ACT, 1922  
*Numbers of Orders-in-Council*

2050/64;

116/65;

THE LOGGERS' SAFETY ACT, 1962-63  
*Numbers of Orders-in-Council*

3724/64;

3887/64

3895/64;

49/65;

MISCELLANEOUS

*Numbers of Orders-in-Council*

1591/64;  
2727/64;

4189/64;  
4242/64;

920/65;

THE MUNICIPAL ACT

*Numbers of Orders-in-Council*

3893/64;

THE PROVINCIAL LAND TAX ACT, 1961-62  
*Numbers of Orders-in-Council*

1993/64;

4163/64;

THE PROVINCIAL PARKS ACT  
*Numbers of Orders-in-Council*

1520/64;  
1999/64;

2189/64;  
2433/64;

944/65;

THE PUBLIC LANDS ACT  
*Numbers of Orders-in-Council*

1136/64;  
1140/64;  
1163/64;  
1242/64;  
1392/64;  
1406/64;  
1541/64;  
1553/64;  
1592/64;  
1620/64;  
1623/64;  
1624/64;  
1699/64;  
1873/64;

1990/64;  
1994/64;  
1995/64;  
2031/64;  
2188/64;  
2373/64;  
2404/64;  
2434/64;  
2509/64;  
2512/64;  
2520/64;  
2724/64;  
2725/64;  
2728/64;

2741/64;  
2911/64;  
2933/64;  
3084/64;  
3616/64;  
3636/64;  
3758/64;  
3816/64;  
4154/64;  
4180/64;  
4196/64;  
4213/64;  
223/65;  
359/65;

406/65;  
453/65;  
472/65;  
612/65;  
618/65;  
773/65;  
778/65;  
839/65;  
840/65;  
843/65;  
844/65;  
878/65;  
921/65;  
1017/65;  
1073/65;

## THE PUBLIC SERVICE ACT, 1961-62

### *Numbers of Orders-in-Council*

2013/64;

2050/64;

112/65;

116/65;

## THE WILDERNESS AREAS ACT

### *Numbers of Orders-in-Council*

1243/64;

2720/64;

3087/64;

**Total number of Orders-in-Council — 232**

(Orders-in-Council passed under two statutes are shown in both lists).

## FEDERAL-PROVINCIAL CO-OPERATIVE AGREEMENTS

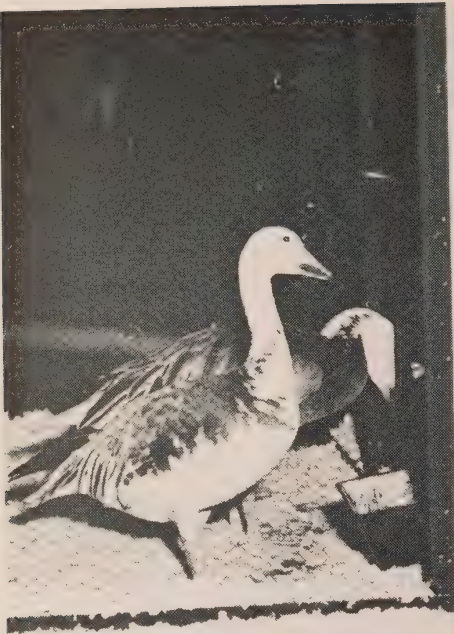
### Agreement under The Canada Forestry Act

By an agreement dated the 12th day of June, 1964, between the Government of Canada and the Government of the Province of Ontario entered into between the Minister of Forestry and the Minister of Lands and Forests, Canada agreed, during the fiscal year 1964-65, to make financial contributions toward approved provincial programmes as follows:

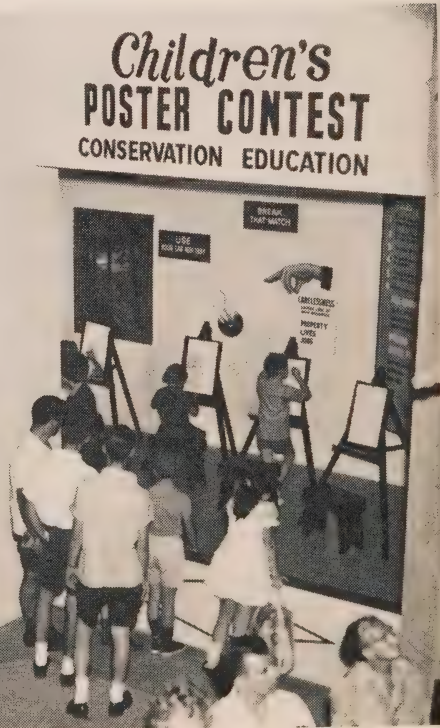
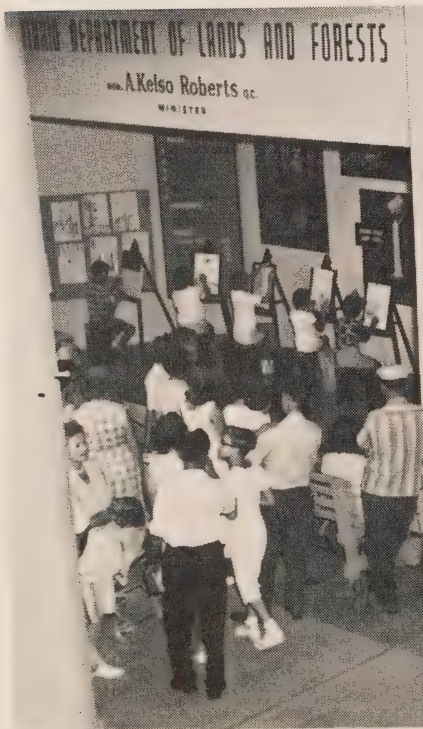
- (a) Forest Inventory — 50 per cent.
- (b) Reforestation of Crown Lands, including lands of public authorities under control of the province;
  - (i) \$15 per unit for planting;
  - (ii) \$2 per unit for seeding without ground preparation;
  - (iii) \$4 per unit for seeding with ground preparation (scarification or controlled burning);
  - (iv) 25 per cent of amounts expended for establishment or expansion of nurseries.A unit is the planting of 1,000 trees or the seeding of an acre.
- (c) Stand Improvement Projects, excluding projects on Crown land paid for by persons or agencies other than the province, or aesthetic projects — 50 per cent.
- (d) Forest Access Roads, Trails and Airstrips, excluding fencing, signs, marking, maintenance, municipal roads and roads not primarily intended for the protection or management of the forest lands or transportation of forest products — 50 per cent.
- (e) Forest Fire Protection, including equipment for prevention and detection, communication or transportation equipment for protection, suppression equipment, and buildings and improvements used primarily for protection, and the charter of aircraft and vessels for protection — 50 per cent.

The maximum annual payment shall not exceed \$1,650,018 for any or all projects approved under the agreement. Additional assistance may be paid if other provinces do not qualify to receive their full allotment of the sum of \$7,910,000 which the federal government is spending on these programmes.





Young visitors admire Blue Geese at the Lands and Forests exhibit, Canadian National Sportsmen's Show.



The annual Children's Poster Contest at the C.N.E. is always crowded with eager "artists".



## OPERATIONS BRANCH

**I**N THE fiscal year under survey, Operations Branch was composed of five sections: Office Management Section, Central Supply Warehouse Section, Conservation Information Section, Conservation Education Section, Accident Control Section.

As of November 1964, the addition of Accident Prevention, Workmen's Compensation and Parks' Safety was made to Operations Branch; the administration of The Loggers' Safety Section of it being transferred from the Department of Labour.

*Office Management Section* directs most of the purchasing for the Department including all pertinent aspects such as tenders, quotations, the processing of requisitions for stationery, equipment and services for the whole department, expediting, the study of ever-changing products and other allied functions. It is also responsible for the inventory and control of office furniture and equipment, the control of supply and demand for uniforms, and the liaison required in the organization of conferences, meetings, etc.

*Central Supply Warehouse Section* has charge of receipt and maintenance of stock, the keeping of stock records, and the supply of equipment.

*Conservation Information Section* issues a weekly news and special press releases; operates a photographic, slide and cut service; handles a large volume of correspondence and personal enquiries on the use of renewable, natural resources; prepares special articles and background material for outside agencies; prepares and places both display and classified advertisements; maintains a reference library; and publishes several scores of books, pamphlets and reports for departmental use in general distribution.

*Conservation Education Section* is responsible for the production and management of departmental displays and exhibits throughout the province (including the Canadian National Exhibition); for poster contests for school children; for the production of motion picture films dealing with fire control, timber products, fish and wildlife resources and parks, and for the maintenance of a film library; for the preparation and delivery of lectures and discussions in schools and camps; and for radio and television broadcasts.

*The Accident Control Section* is responsible for the administration of The Logger Safety Act of Ontario; operation of the Hunter Safety Training Programme; programme for safety in provincial parks; the internal safety programme of the Department; and administration of Workmen's Compensation as it pertains to the Department.

## OPERATIONS BRANCH

Chief: P. O. RHYNAS

Assistant Chief: C. V. RICH

### OFFICE MANAGEMENT SECTION

Supervisor: M. A. GONTIER

Purchasing, Invoicing, Leases, Customs  
Circular Production, Uniforms  
Material Control, Equipment Inventory  
Office Management, Records

### CENTRAL SUPPLY WAREHOUSE

Supervisor: M. TOMS

Housing, Recording and Shipping of Stock  
Delivery to Toronto Area Offices

### CONSERVATION INFORMATION SECTION

Publications, News and Press Releases  
Public Appeals, Editorial Services  
Supply of Information, Photos and Slides

### CONSERVATION EDUCATION SECTION

Acting Supervisor: C. V. RICH

Supply of Material to Radio and Television  
Exhibits and Display Material  
Lectures and 16 mm. Motion Pictures

### ACCIDENT CONTROL SECTION

Chief Officer: C. V. RICH

Administration of The Logger Safety Act  
Hunter Safety Training Programme  
Parks Safety Programme  
Department First Aid and Safety  
Workmen's Compensation

# OFFICE MANAGEMENT SECTION

## Purchasing Subsection

This service, charged with the procurement of supplies and service for the Department throughout the province, experienced a widespread activity, covering purchasing and its related aspects as well as other diversified duties.

In the fiscal period under review, there were received over 10,000 requisitions for supplies and service which were the basis for the issuance of 4,937 direct purchase orders, 1,871 Queen's Printer stationery orders, 497 Queen's Printer printed orders, 316 Public Works requisitions. In an analysis of work performed, the following activities were most often noted:

1. Receipt and recording of all requisitions from Head Office and Regional and District Offices, requiring decision as to what could be supplied from stock and what was to be ordered.
2. Investigation and procurement procedures for all purchases, including also direction, preparation of all direct purchase orders and requisitions to the Queen's Printer and the Department of Public Works, and expediting of same.
3. Quotation calls, opening of same in committee and recommendations.
4. Liaison between this Department and the Department of Public Works for office and other space requirements throughout the province and for which leases and rentals are arranged and other related matters attended to.
5. Processing of invoices in conjunction with receipt of goods, maintenance and oversight in releasing invoices for payment.
6. Supervision of telephone and lighting demands, moving and other internal and external office requirements.
7. Arrangements for accommodations, travel, conferences, etc.
8. Correspondence, preparation of reports.
9. Special assignments.

Search was made from time to time for new developments in office equipment and supplies. On occasion, they were brought to this section's attention, at other times they were found in the course of investigation. Where it was deemed advisable, these new developments in products and services were communicated to branch and district offices.

## Office Management Subsection

Office Management Subsection is responsible for office services and the preparation of estimates which includes equipment and supplies, stationery and office outfitting, travel, maintenance and operating, payrolls, uniforms, publications and public appeals.

1. *The inventory of all major equipment* in the Province belonging to the Department. This includes trucks, cars, boats, canoes, power plants, shop equipment, tools, fire hose, outboard motors, office machines, etc. There are some 2,000 power units including mobile, marine and stationary.
2. *Circulars and Bulletins.* All Circulars and Bulletins required by the Department are processed through this section after they are approved by the Circular Board. This involves the cutting of stencils, the follow-up through the dupli-

cating room, and distribution. All revisions of circulars and bulletins in effect in the branch are carried through by this section.

3. *Uniforms.* There are approximately 1,500 approved personnel in uniform on the staff of this Department including seasonal Parks staff. A continuous record is kept of each individual's uniform account which was checked against requisitions for uniform items, and requisitions were approved according to scale of issue. Included in the estimates for the coming fiscal year must be an accurate estimate of funds required for the uniform programme.
4. *Records.* Records pertinent to all Crown Lands of the Province are housed in Records Office. Assembly, indexing and classification of all incoming correspondence, compiling of new files and distribution to the offices in which officials required any particular files, are the main responsibilities of this office. An average of 425 files are on charge in a given day. Every new letter pertaining to any of 308,000 files is recorded, sent to the pertinent offices for handling and finally added to the proper file for record. During the current fiscal year, record files up to and including all plans and surveys to the end of 1924 were microfilmed.
5. *Boat Licensing.* This Subsection is responsible through the Federal Department of Transport for the processing of applications for licences for all Department boats. Some marine units of the Department require only a licence number, and others require registration showing home port, tonnage, dimensions, etc., depending on the specifications of the marine unit in question. Specifications of the boats supplied to this section were used to prepare the necessary applications for licences.
6. *Special Assignments.* Because of the nature of this work, there is almost a daily demand for services where immediate action and varied organization is required.

## CENTRAL SUPPLY WAREHOUSE SECTION

The functions of this Section include:

1. Receipt of stock and its housing and distribution for all branches, regions and districts.
2. Duplicating of various forms, letters, publications and reports, including the design or revision of new forms and reports.
3. Collating and distribution of bulletins, circulars, technical reports, acts, bills, weekly newsletter and other duplicated materials.
4. Receipt and shipment of Fish and Wildlife licenses and Park Vehicle Permits to a large distribution list including district offices and all licence issuers throughout the Province.

## STOCKROOM

In the course of the fiscal year (April 1, 1964 to March 31, 1965) supplies and equipment shipped by the Section amounted to 246 tons. In the same period the Section received a total of 348 tons. Shipments were made by express, freight, transport and mail, and also by internal supply to Department offices throughout the City.



## DUPLICATING, COLLATING AND DISTRIBUTING

Work in this subsection was most active and demanding as usual. The production of forms, reports, booklets, letters, circulars and bulletins is continuously being revised each year.

Collating and distributing were as follows:

Information Bulletins .....	55,475
Circulars .....	25,290
News Releases .....	133,000
Extracts from Fishery Regulations .....	9,949
Summary of Fishery Regulations .....	769,512
Summary of Hunting Regulations .....	839,161
Game and Fish Act and Fishery Regulations .....	15,941
Book Covers .....	128,500
Miscellaneous Stapling and Distributions .....	234,399
Total .....	<hr/> 2,211,227

## LICENCE ISSUING

There were more than thirty types of hunting, angling, bait fish, roll net, dip net, frog, guide, trapping, trap-line and dog licences issued to all licence issuers and district offices throughout the Province.

The number of licences prepared and checked for mailing and express totalled 1,581,980; they were forwarded on 13,857 invoices to more than 3,000 issuers.

In addition, 161,000 Provincial Park Annual Vehicle Permits, 565,700 Daily Permits, 398,925 Campsite Permits and 294,500 Fur Seals were distributed by this subsection.

## UNIFORMS

The Department's Uniform Stockroom is located in this Section. A stock of replacement uniform apparel is carried, and issues are shipped to personnel as authorized by requisition.

## CONSERVATION INFORMATION SECTION

The Section disseminates information on the protection and management of the renewable, natural resources under the Department's administration. It works through many media to bring to as many people as possible a better understanding of Lands and Forests policies and conservation principles.

## NEWS

The Lands and Forests news release is mailed every week to all newspapers and all radio and television stations in Ontario. Its circulation of 2,712 includes class magazines, outdoor writers, conservation groups and hunters' and anglers' clubs and associations. It delivers Department news and regulations and informed opinion in a form easily adapted by outside agencies. The use of news release material by outdoor writers and commentators in the United States contributes importantly to Ontario's tourist trade.

Professional and public service groups may secure public notice through the news release's advance listing of conventions and other events of interest to sports-

men, naturalists, conservationists and professions and industries which touch upon Lands and Forests administration.

News of more than normal urgency is carried by spot press releases which go directly to important news outlets.

## CORRESPONDENCE

During the past fiscal year, the Section returned 33,000 answers by mail to persons requesting information on such subjects as hunting and fishing regulations, camping facilities, tourist accommodations, summer cottage properties, conservation, and the purchase and planting of forest tree seedlings. Many requests came from students and teachers who asked for information of a scientific nature.

In addition, the Section answered numerous requests for information in person and over the telephone.

## PHOTOGRAPHS

The Section loaned approximately 9,200 black-and-white prints to newspapers and magazines during the past fiscal year; it also loaned cuts to publishers and transparencies to lecturers.

The Section operates a darkroom and a photograph library which contains approximately 29,000 negatives and 3,800 colour transparencies. Standard 8" x 10" prints are supplied immediately or at short notice. Sets of slides or prints are supplied to illustrate lectures on fish, trees and shrubs.

## APPEALS

Special appeals are prepared for news media to enlist public support of Lands and Forests programmes, principally in forest fire prevention and hunter safety.

Special material is prepared and distributed to schools with the approval of the Department of Education.

During the past fiscal year, 161 advertisements were placed in 107 newspapers to call for tenders on timber cutting, etc.

## NEW QUARTERLIES

In the fall of 1964, the Section began publication of "Conservation Spots" and "Conservation Copy" to increase the volume of conservation and safety messages reaching the public. Both releases are issued quarterly, in advance of the seasons, in news release format.

Conservation Spots carries usable announcements to radio and television stations and selected broadcasters in Ontario.

Conservation Copy delivers usable filler items to outdoor writers and Ontario newspapers and magazines.

## EDITORIAL SERVICE

The concentration of conservation messages is increased by services performed for outside agencies. Articles are written on request for outside writers and commentators. Speech material is sometimes prepared for Department personnel who are invited to address meetings of sports clubs, conservation groups and service organizations.

## LIBRARY

The Section's reference library contains copies of all Lands and Forests pub

lications and a variety of books, periodicals and press clippings: it includes early reports and legislative journals dating from 1856.

## Publications

Lands and Forests publications cover many fields of interest to the general public and to special groups. As new material becomes available, new publications are issued and earlier releases are revised.

The following listing of books, booklets, folders and leaflets does not include technical papers and management reports.

*(\*indicates publications issued during the 1964-65 fiscal year.)*

### FISH AND WILDLIFE

Fishes of Ontario .....	\$2.50
Sport Fishes of Ontario (chart in colour) .....	\$1.00
Fishing in Lake Simcoe .....	\$1.00
Meet the Wildlife of Ontario's Outdoors .....	\$0.35
Landlocked Sea Lamprey	
Common Mammals (Leaflets on beaver, black bear, coyote, red fox, muskrat, otter, cottontail rabbit, squirrels, timber wolf and woodchuck)	
Common Birds (Leaflets on bluebird, black-capped chickadee and white-throated nuthatch, flicker, evening grosbeak, rose-breasted grosbeak, song sparrow, white-throated sparrow and scarlet tanager)	
*Commercial Fishing in Ontario	
*Fur in Ontario	
*The Deer Hunt in Ontario, 1963	
*The Moose Hunt in Ontario, 1963	
*The Spring Bear Hunt in Ontario, 1962-63	
*The Game and Fish Act and the Ontario Fishery Regulations	
*Extract from the Ontario Fishery Regulations (Poster)	
*Summary of the Ontario Fishery Regulations	
*Summary of the Ontario Hunting Regulations	
*Summary of the Ontario Big Game Hunting Seasons	
*Summary of the Regulations which apply to Trapping and Fur Dealing	

### OUTDOOR RECREATION

*The Ontario Outdoorsman's Manual .....	\$0.25
*So You Want to Go Camping (revised)	
Where to Fish in Northwestern Ontario	
Where to Fish in Northeastern Ontario	
Where to Fish in Southern Ontario	
The Ten Commandments of Hunter Safety	
Why Hunter Safety Training	
How to Survive in the Woods	

### PROVINCIAL PARKS

*Algonquin Provincial Park (revised)	
Quetico Provincial Park	
*Canoe Routes—Algonquin (revised)	
Canoe Routes—Quetico	
Watch It! (folder)	
Reptiles of Algonquin Provincial Park	
Provincial Parks in Ontario (Can. Geog. Jour.)	
Check List of Birds—Algonquin	
Check List of Birds—Rondeau	
Check List of Trees, Shrubs and Woody Vines—Algonquin	
Check List of Trees, Shrubs and Woody Vines—Rondeau	
Check List of Ferns, Fern Allies and Herbaceous Flowering Plants—Algonquin	
Check List of Ferns, Fern Allies and Herbaceous Flowering Plants—Rondeau	
Check List of Mammals—Algonquin	
Check List of Fishes, Amphibians and Reptiles—Algonquin	

## FORESTS

The Forest Trees of Ontario .....	\$0.50
Hardwood Trees of Ontario .....	\$0.50
The Forest Resources of Ontario	
Teacher's Guide to Forest Conservation	
Common Trees (Leaflets on spruce, white pine, jack pine, sugar maple and yellow birch)	
Planning for Tree Planting	
*Care and Planting of Forest Trees (revised)	
Forest Tree Planting	
Manual of Seed Collecting	
The Farm Woodlot	
The G. Howard Ferguson Forest Station	
Orono Forest Station	
Midhurst Forest Station	
Thunder Bay Forest Station	
St. Williams Forest Station	
The Ontario Tree Seed Plant	
Johnny Acorn Says	
*4H Forestry Club Leaders' Guide	
*Farm Forestry Service for You	

## FOREST PROTECTION

*Our Forests Are Burning	
Tower Jack	
Dutch Elm Disease in Ontario	
*The Forest Fires Prevention Act	

## FOREST INDUSTRY

Lumber in Ontario	
Pulp and Paper in Ontario	
The Birch Bark Canoe	
The Pointer Boat	
Directory of Primary Wood-Using Industries	

## LAND AND WATER

List of Water Powers .....	\$0.75
Geographic Townships .....	\$0.50
Ontario Resources Atlas .....	\$1.00
Summer Resort Lands in Ontario	
Price List of Lithographed Maps and Plans	

## RESEARCH

The Glackmeyer Report of Multiple Land-Use Planning .....	\$4.00
*Manual of Common Parasites, Diseases and Anomalies of Wildlife in Ontario	

## HISTORY

Algonquin Story .....	\$2.50
Camping in the Muskoka Region .....	\$2.00
*Indians of Ontario .....	\$1.00
Early Days in Haliburton .....	\$2.50
Early Days (Air Service)	
Fifty Years of Reforestation in Ontario .....	\$0.50
H.M.S. Nancy and the War of 1812	
Forest District Histories	
1. Kapuskasing	*10. Kenora
2. Geraldton	*11. Gogama
3. Lake Huron	*12. Parry Sound
4. Port Arthur	*13. North Bay
5. White River	*14. Cochrane
6. Sioux Lookout	*15. Swastika
7. Lake Simcoe	*16. Chapleau
8. Fort Frances	*17. Kemptville
*9. Lake Erie	*18. Lindsay



## ADMINISTRATION

- \*Annual Report of the Minister of Lands and Forests
  - Part I—Detailed
  - Part II—Highlights
- \*A Statistical Reference of Lands and Forests Administration
- \*Ontario Forest Ranger School (Information Brochure)
- \*Ontario Forest Ranger School (Prospectus)
- \*Ontario Forest Ranger School Year Book
- \*Ontario Junior Forest Ranger Programme (revised)
- \*List of Publications for Distribution

## CONSERVATION EDUCATION SECTION

Conservation Education Section conducts an educational programme consisting of appeals planned to attract public interest and explain, in easily understandable terms, the need for the wise use of renewable, natural resources.

### Visual Education

The Section's film library contains 255 titles with two or more prints of many of them. All films were loaned upon request to field offices; 1200 films were shipped to them during the year. Each District has its own projector, with access to regional film libraries and the head office film library.

The film library loaned 16mm motion picture projectors, 35mm slide projectors, screens and films to provincial parks offering interpretive programmes to the public, during the summer.

The following films were added to Head Office and Field film libraries during the year:

- Aircraft In Forest Fire Control
- Arctic Region And Its Polar Bears
- Beaver Valley
- Black Duck
- Flames In The Forest
- Look—Stop Backing Accidents
- Nature's Half Acre
- The Pond
- The Snakes Of Ontario

Several thousand feet of motion picture film is being used by television outlets throughout the Province. The Section completed production of a new film, "The Snakes Of Ontario", fourth in the Ontario Wildlife Series. "Flames In The Forest", produced last year, was awarded third prize at the American Association for Conservation Information's Annual Convention, in competition with 52 other provinces and states.

## RADIO AND TELEVISION

Radio and Television stations throughout the Province have been most generous in donating time to the Department, and Districts regularly take advantage of these opportunities to reach the public. In addition to radio programmes, several Districts conduct regular, live television broadcasts of their own. This Section also supplied Districts with films for television use.

## Exhibits

Visual conservation appeals were featured in the Department's exhibits at many shows and fairs in Ontario. The major displays handled through Head Office were at the following:

### CANADIAN NATIONAL EXHIBITION, TORONTO

At the C.N.E., displays consisted of a realistic forest fire scene, and a portable setting of the snakes of Ontario. Other exhibits were hunter safety training, timber, provincial parks, Research, Lands and Surveys, fish, animals and birds, and a children's poster contest. A nature trail, on the central mound featured cages of identified birds and small animals. Various species of trees, growing on the mound, were identified by signs. Also featured was an Indian building a birch bark canoe and carving axe handles and paddles.

The Conservation Poster Contest, for elementary school children from six to fourteen years of age, was repeated this year. A Grand Prize of \$100.00 was presented for the best poster. First, second and third prizes, in each of three age groups, in amounts of \$50.00, \$25.00 and \$15.00 were awarded. Thirty honourable mentions, ten in each age group, were presented with books.

### CANADIAN NATIONAL SPORTSMEN'S SHOW, TORONTO

The exhibit at this Show featured Ontario's game, fish, wildlife, snakes, forest protection, parks, hunter safety training, fur, timber and wildlife management.

### CENTRAL CANADA EXHIBITION, OTTAWA

A completely new display featured an animal and fish pavilion. Also included were a provincial parks display and forest fire fighting equipment.

### ROYAL AGRICULTURAL WINTER FAIR, TORONTO

Theme of the display was the growing of trees from seed. A talk given by foresters, told the tree's story from seed to sawmill.

A display of wildlife was also included.

### AID TO DISTRICTS

Full co-operation was given to district offices participating in sportsmen's shows and agricultural fairs such as the Western Fair at London, the International Plowing Match at Peterborough and the Timmins Sportsmen's Show.

## Lecture Tours

The Department kept in touch with the public through fish and game associations, schools, church groups, service clubs and youth organizations. Illustrated lectures were given on all aspects of the Department's work.

The following Table provides a summary of lectures delivered by head office and field staff during the fiscal year. A summary of lecture tours carried out by the Ontario Forestry Association during the same period is included in the Department's figures:

Region	District	School Meetings		Public Meetings		Total	
		No.	Attend.	No.	Attend.	No.	Attend.
Western	Fort Frances ...	63	6923	77	3159	140	10082
	Kenora .....	1	50	59	4736	60	4786
	Sioux Lookout	14	2711	8	159	22	2870
Mid-Western	Geraldton .....	16	2138	75	5552	91	7690
	Port Arthur .....	22	972	45	2856	67	3828
Northern	Cochrane .....	118	21658	41	2124	159	23782
	Kapuskasing ...	19	2187	53	2340	72	4527
	Swastika .....	6	215	53	4181	59	4396
Central	Chapleau .....						
	Gogama .....	6	304	22	516	28	820
	S. S. Marie .....	10	414	26	2129	36	2543
	Sudbury .....	38	9083	26	1789	64	10872
	White River .....	18	2834	37	1533	55	4367
South-Central	North Bay .....	28	3561	71	3730	99	7291
	Parry Sound ...	51	4477	111	8077	162	12554
South-Eastern	Kemptville .....	113	6953	175	6307	288	13260
	Lindsay .....	74	3738	195	14243	269	17981
	Pembroke .....	2	91	189	28079	191	28170
	Tweed .....	129	6569	178	13430	307	19999
South-Western	Lake Erie .....	55	3384	161	9206	216	12590
	Lake Huron .....	12	1284	174	8181	186	9465
	Lake Simcoe ...	154	11638	389	23638	543	35276
Ontario Forestry Association				220	15915	220	15915
TOTALS .....		949	91184	2385	161880	3334	253064

## ACCIDENT CONTROL SECTION

The Accident Control Section has the following function:

To promote, co-ordinate and assist in all phases of safety and accident prevention within the Department. To advise the Regional Directors in all matters of safety and accident prevention, including the interpretation of the Loggers' Safety Act and Regulations and Department policy pertinent to them. To study the Loggers' Safety Act and Regulations made under the Act for possible improvements and prepare recommendations for the Minister should amendments be necessary. To search all reference to safety from publications, press, etc., and prepare adaptations where applicable, retain up-to-date files and records on accident frequency and prepare statistical reports.

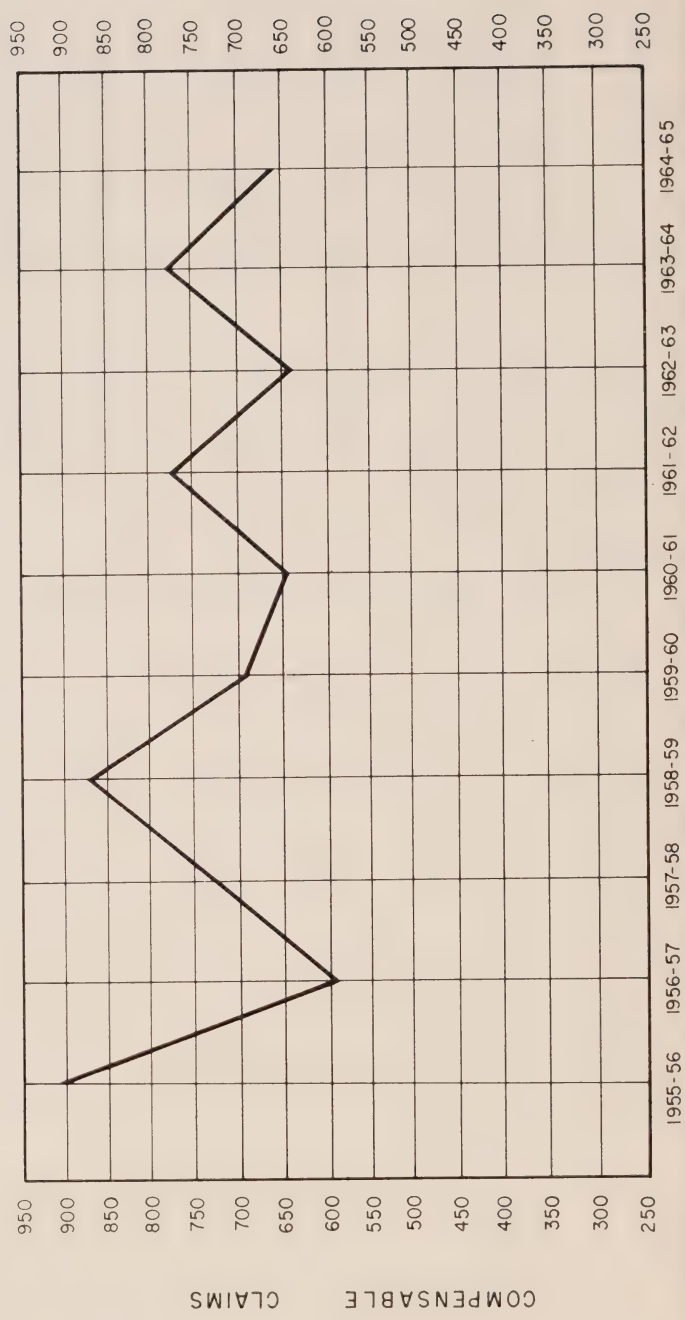
To prepare cost analyses and accident reports on Workmen's Compensation as it affects the Department. To process all claims issued on Departmental accidents and fatalities. To maintain a good working relationship with all outside safety agencies. To study and recommend new safety methods, equipment, and safety and accident prevention training.

To promote and co-ordinate all phases of the Hunter Safety Training programme. To prepare and revise the Hunter Safety Training Manual when and wherever necessary. To develop good liaison between the department and the many fish and game clubs throughout the province in co-operation with the Fish and Wildlife Branch and outside agencies. To arrange and prepare instruction material pertinent to the Hunter Safety Course with the objective of attaining a high level of uniformity in training. To inform the public of the purpose and necessity of such training and to be a centre of information regarding all phases of hunting safety and accident prevention.

# TREND IN WORKMEN'S COMPENSATION CLAIMS

PREPARED FROM TOTAL CLAIMS FOR THE PAST TEN YEARS  
1955-56 TO 1964-65

TOTAL COMPENSABLE CLAIMS PER FISCAL YEAR





## WORKMEN'S COMPENSATION

There is a marked improvement in the safety picture for the fiscal year 1964-65.

Total number of claims was 656; a decrease of 117 from last year. Total cost of Department claims \$126,265.57; a decrease of \$26,647.23. Average cost per claim was \$96.00; a decrease of \$7.00.

There were fewer high cost claims arising in the fiscal year. The incidence of major severity of injuries has been decreasing.

The fire season was very light, with no major fires. Less extra fire fighters were required. Injuries were only one-third of last year's total.

There were more junior rangers hired than last year but the number of injuries decreased by 18.

Average number of employees decreased by 352 and 1.6% fewer employees were injured.

There were three deaths in the fiscal year. Two were accepted by the Workmen's Compensation Board and a pension commenced for one of them in the fiscal year. The pension for the other will be shown in the next fiscal year. No decision was made on the third death claim and it will likely be rejected. Three new pensions commenced for claimants with permanent partial disability, bringing the total of new pensions to four.

## WORKMEN'S COMPENSATION AND SAFETY TRAINING

The Injury Frequency Rate for the fiscal year 1964-65 was 16.6, a decrease of 1.6 from the previous year.

The Injury Frequency Rate is a unit of measure to determine the frequency of disabling injuries by the following formula:

$$\frac{\text{No. of lost time injuries} \times 100,000 \text{ man-days}}{\text{man-days worked}}$$

Lost time injuries are those considered to be compensable by the Workmen's Compensation Board and require a period of lay off from work longer than two calendar days.

A three-year comparison:

1962-63	14.2
1963-64	19.2
1964-65	16.6

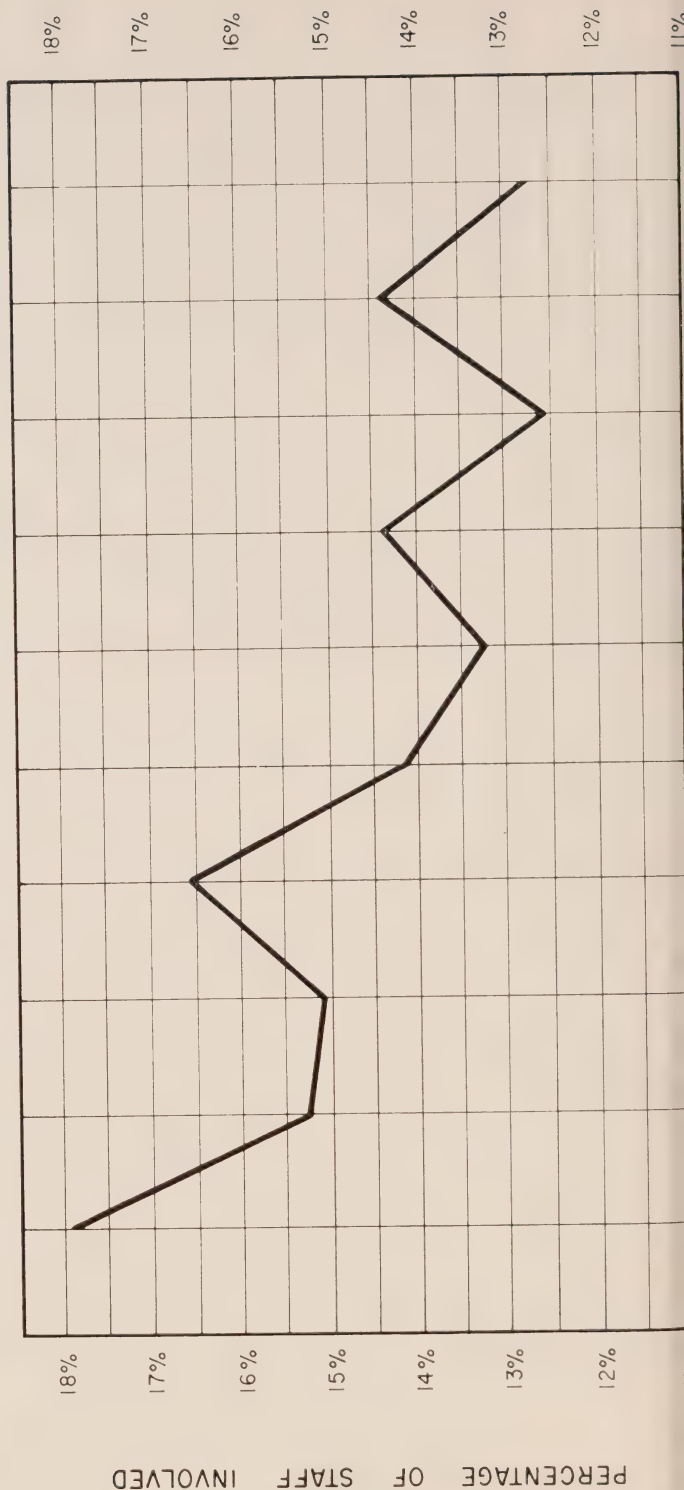
The "Lands and Forests Safety Shield" was won by Port Arthur District. It had the lowest injury frequency rate in the competition among the districts.

### Port Arthur District Record

Compensable lost time injuries .....	3
Man-days worked .....	58,310
Injury Frequency Rate .....	5.0

# PERCENTAGE OF STAFF INVOLVED IN COMPENSABLE CLAIMS ANNUALLY

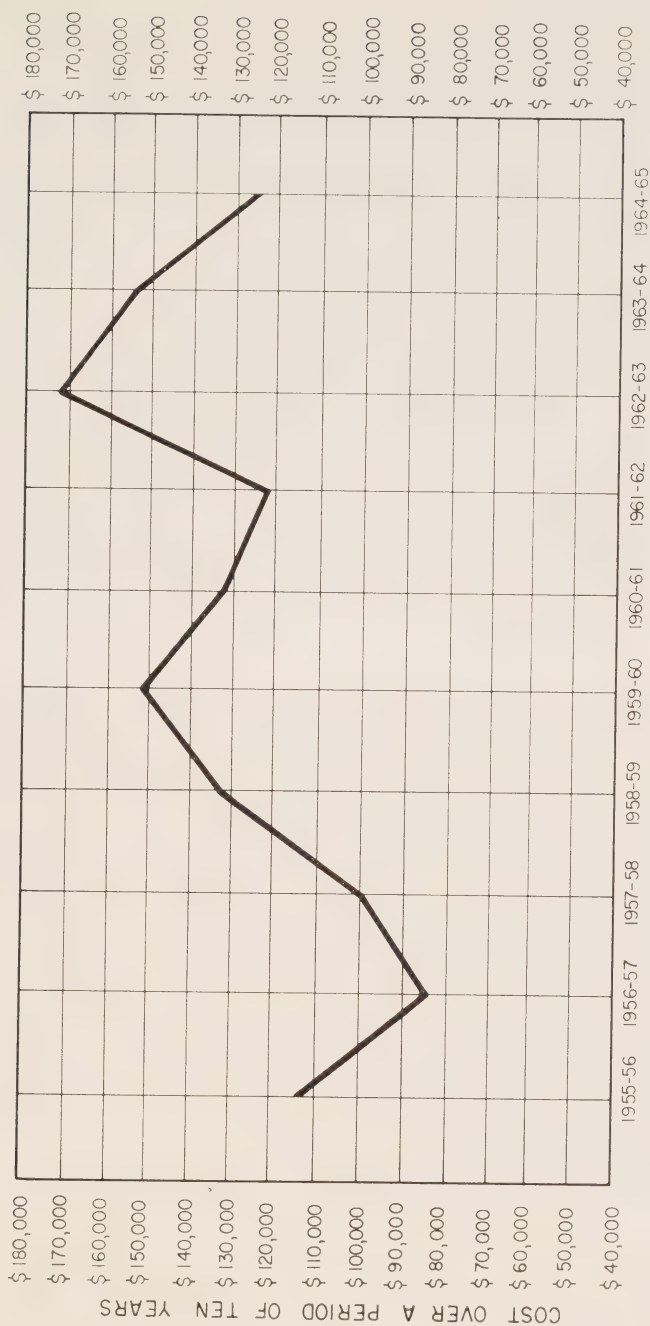
OVER A PERIOD OF THE PAST TEN YEARS  
1955-56 TO 1964-65



# TREND IN WORKMEN'S COMPENSATION COSTS

PREPARED FROM TOTALS FOR THE PAST TEN YEARS

1955-56 to 1964-65



TOTAL COST OF DEPARTMENT CLAIMS





Canoe trippers arrive at first portage—Algonquin Provincial Park.



Checking cars into campsites. Grundy Lake Provincial Park, Parry Sound District.



## PARKS BRANCH

THE responsibilities and functions of Parks Branch are as follows:

Provision, operation and maintenance of provincial parks as public recreational lands;

Examination of potential park areas;

Recommending potential and proposed park areas to the Ontario Parks Integration Board;

Production of detailed master plans for provincial parks;

Development of provincial parks in accordance with the master plan;

Design and construction of provincial park structures and buildings;

Establishment, operation and maintenance of interpretive programmes and exhibits in provincial parks of natural and/or historical significance; and

Collection compilation and assessment of provincial park statistics.

In 1964 there were 88 provincial parks totalling more than 3,730,000 acres open for public use. Of these, eight were maintained without fees being charged. In addition there were 58 areas totalling 568,374 acres reserved for future development.

There were no changes in provincial park fees which consisted of the annual vehicle entry permit of \$3.00, the daily vehicle entry permit of fifty cents, the boat entry permit of \$5.00 for entry by water into Quetico Provincial Park and the daily campsite permit fee of \$1.00.

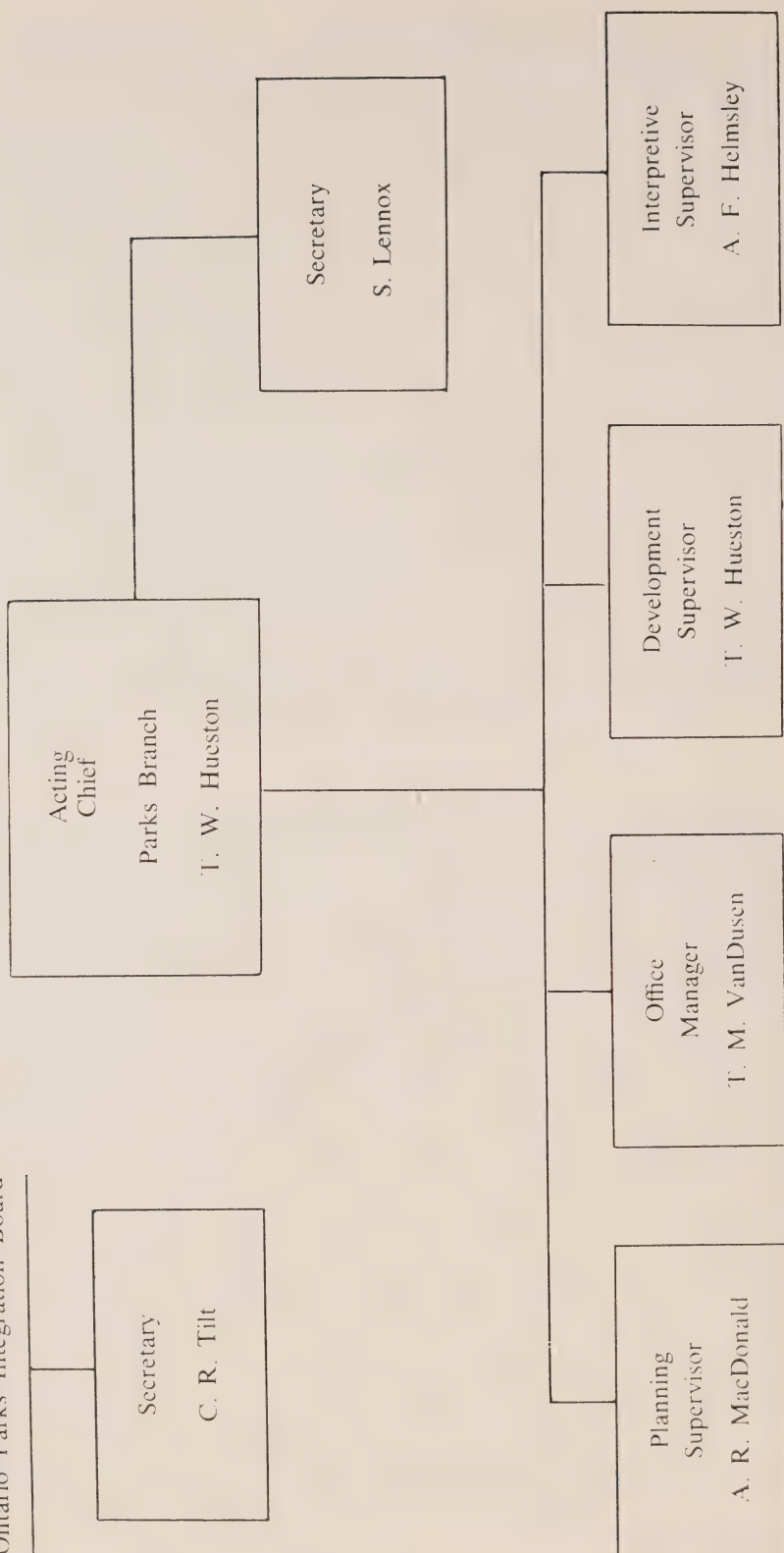
A 7% increase over 1963 in park visitation was experienced. The 1964 figure was 9,139,975. The number of campers was up 9% over last year to 916,281. (This figure excludes campers on renewed permits, a system initiated in 1963). Wilderness campers using the interior waterways of Algonquin and Quetico Provincial Parks was up 4% to 49,112.

An appropriation of \$1,150,000 was made available for the development of provincial parks. The number of camping units was increased in 1964 by 792, making a total of 15,230, thus providing accommodation for approximately 61,000 campers at one time. The construction of 73 earth pit toilets, 10 flush type comfort stations, and 6 change houses added to the facilities available for the park user. Other additional improvements to parks facilities included; 21,299 feet of beach, 51 acres of overflow camper areas, 35 wells and 4½ miles of nature trails.

Pinery, Darlington, Kakabeka Falls and Kap-Kig-Iwan Provincial Parks again provided facilities for winter activities. A ski tow and snow making equipment at the Pinery proved popular.

# PARKS BRANCH

Ontario Parks Integration Board



# PROVINCIAL PARKS POLICY AND OBJECTIVES

The Provincial Parks, within the administration of the Department of Lands and Forests, provide public parklands in as near a natural condition as possible, coincident with the intensity and type of use of the particular park. Provincial Parks provide space with emphasis on the natural environment and the format of public outdoor recreation which are in keeping with that environment. Such recreational pursuits include camping, picnicking, swimming, boating, canoe tripping, hiking, fishing, and in certain parks, hunting, and the inspirational enjoyment of the natural environment. The emphasis, therefore, is on recreational activity which cannot be indulged in at home and which should be distinguished from recreation associated with an urban environment.

The Objectives of the Provincial Parks are:

1. To provide for the people of Ontario outdoor space in which they may enjoy the kinds of recreation usually associated with the natural environment such as camping, swimming, boating, fishing, hunting, hiking, skiing, and the general enjoyment of nature.
2. To provide this space in areas where it is needed.
3. To reserve for future use areas sufficient to meet anticipated demand.
4. To achieve in each park optimum use consistent with the retention or restoration of a natural appearance and atmosphere, and to recognize special recreational uses and values in certain parks.
5. To include, in parks, rare and/or unusual features of natural and historical significance.
6. To preserve all significant natural and/or historic features in Provincial Parks.
7. To provide in parks only those facilities which are necessary for the enjoyment of the outdoor activities for which the park is intended and the well-being of park visitors.
8. To promote in park users an increased appreciation of the natural and historical significance of parks through such media as museums, exhibit centres, conducted trips, talks, interpretive trails and publications.
9. To prevent the use of any Provincial Park for purposes which will alter the natural features or atmosphere to the extent that they interfere with the enjoyment of those engaging in the activities for which the Park is intended.

Table No. 1 (a)

PROVINCIAL PARKS IN OPERATION  
(as of March 31, 1965)

Administrative District	Name of Park	Date Established
Chapleau	Five Mile Lake	Sept. 29, 1958
Cochrane	Charles Island	
	Greenwater	June 25, 1957
	Kettle Lakes	June 25, 1957
Fort Frances	Caliper Lake	July 22, 1960
	Lake of the Woods	
	Quetico	April 1, 1909
Geraldton	Blacksand	July 22, 1960
	Klotz Lake	July 22, 1960
	MacLeod	May 1, 1963
	Neys	
	Rainbow Falls	May 22, 1963
Gogama	Ivanhoe Lake	June 25, 1957
Kapuskasing	Nagagamisis	June 25, 1957
	Remi Lake	June 25, 1957
Kemptville	Fitzroy	May 21, 1963
	Rideau River	May 21, 1963
	Silver Lake	Sept. 29, 1958
	South Nation	July 22, 1960
Kenora	Aaron	Sept. 29, 1958
	Blue Lake	July 22, 1960
	Rushing River	Sept. 29, 1958
	Sioux Narrows	June 25, 1957
Lake Erie	Clay Creek	Sept. 29, 1958
	Holiday Beach	Oct. 6, 1958
	Ipperwash	June 24, 1938
	John E. Pearce	June 25, 1957
	Long Point	May 3, 1921
	Pinery	Oct. 11, 1957
	Port Bruce	
	Rock Point	June 25, 1957
	Rondeau	May 5, 1894
	St. Williams	
	Turkey Point	April 21, 1959
Lake Huron	Craigleith	
	Inverhuron	
	Sauble Falls	
Lake Simcoe	Bass Lake	June 25, 1957
	Devils Glen	
	Earl Rowe	June 29, 1964
	Sibbald Point	Dec. 23, 1957
	Six Mile Lake	Feb. 24, 1958
	Springwater	Sept. 29, 1958
	Wasaga Beach	Aug. 31, 1959
Lindsay	Balsam Lake	
	Darlington	Oct. 30, 1959
	Emily	June 25, 1957
	Mark. S. Burnham	July 26, 1955
	Presqu'île	May 18, 1922
	Serpent Mounds	June 25, 1957



Table No. 1 (a) (Cont'd)

## PROVINCIAL PARKS IN OPERATION

(as of March 31, 1965)

Administrative District	Name of Park	Date Established
North Bay	Antoine	
	Finlayson Point	May 21, 1963
	Marten River	July 20, 1960
	Samuel de Champlain	
Parry Sound	Grundy Lake	April 21, 1959
	Killbear Point	
	Mikisew	June 29, 1964
	Oastler Lake	
	Restoule	May 21, 1963
	Sturgeon Bay	July 22, 1960
Pembroke	Algonquin	May 27, 1893
	Carson Lake	
	Driftwood	May 21, 1963
Port Arthur	Inwood	Sept. 29, 1958
	Kakabeka Falls	
	Middle Falls	July 22, 1960
	Sibley	Jan. 13, 1944
Sault Ste. Marie	Batchawana	
	Lake Superior	Jan. 13, 1944
	Mississagi	
	Pancake Bay	
Sioux Lookout	Ojibway	May 21, 1963
	Pakwash	
Sudbury	Chutes	
	Fairbank	June 25, 1957
	Killarney	July 17, 1964
	Windy Lake	April 4, 1959
Swastika	Esker Lakes	June 25, 1957
	Kap-Kig-Iwan	June 25, 1957
Tweed	Black Lake	Sept. 29, 1958
	Bon Echo	
	Lake on the Mountain	June 25, 1957
	Lake St. Peter	
	Outlet Beach	May 21, 1963
	Sandbanks	
White River	Obatanga	
	White Lake	May 21, 1963

Table No. 1 (b)

## PROVINCIAL PARKS UNDER DEVELOPMENT

(as of March 31, 1965)

Administrative District	Name of Park
Kenora	Pipestone
Lake Erie	Wheatley
Lake Huron	Point Farms
Lake Simcoe	Mara
Lindsay	Ferris
	Kawartha
North Bay	W. B. Greenwood

Table No. 1(c)

PROVINCIAL PARKS ESTABLISHED BUT NOT IN OPERATION  
(as of March 31, 1965)

Administrative District	Name of Park
North Bay .....	Mashkinonje
Port Arthur .....	Arrow Lake

Table No. 2

RECORD OF PARK USE

Administrative District And Park Name	1961	Total Visitors 1962	1963	1964	1961	Total Campers 1962	1963	1964
<b>LAKE ERIE</b>								
Clay Creek	30393	39587	22010	40546	2084	2189	804	1439
Holiday Beach	158843	155842	222275	198857	919	1515	2612	3511
Ipperwash	187945	199494	159256	173734	23002	23873	14078	15177
Long Point	203121	178434	209386	284690	24388	23311	18646	20277
Pinery	301665	329259	355946	544929	53551	64842	50202	54019
Rock Point	12963	20759	25273	24684	1103	2721	3458	3826
Rondeau	642020	686337	647181	616073	30703	36101	29863	27940
St. Williams	32981	19650	22433	19597	—	—	—	—
Turkey Point	16457	342457	278600	379265	5610	10048	10530	13643
<b>LAKE HURON</b>								
Craigleith	60396	70769	57600	49199	15180	16104	12389	12450
Inverhuron	97986	115860	105111	120392	21742	25737	16673	17629
Sauble Falls	178298	166219	174487	140112	12981	15135	9031	11306
<b>LAKE SIMCOE</b>								
Bass Lake	199991	166276	103942	149228	20423	23202	16175	17369
Devil's Glen	81367	71110	81215	79337	3116	3158	2417	2612
Earl Rowe	60248	69707	82579	86134	5298	5849	5631	6482
Sibbald Point	325206	342168	316662	330399	42636	49762	31649	31624
Six Mile Lake	80057	100841	109157	123411	12878	15210	13156	14111
Springwater	109686	98344	110188	116093	—	—	—	—
Wasaga Beach	—	518136	789746	858353	—	—	—	—
<b>KEMPTVILLE</b>								
Fitzroy	51328	58985	94596	80125	7364	9824	7496	9039
Rideau River	144756	198945	206921	221397	14689	18068	13034	14120
Silver Lake	68082	91465	106393	108029	16569	19442	11928	11667
South Nation	42810	40343	44503	39828	5189	6148	5748	6127
<b>LINDSAY</b>								
Balsam Lake	—	—	—	—	—	—	1566	3481
Darlington	122895	118860	108748	125327	8111	13863	13700	15113
Emily	124360	169503	148443	115418	13986	19516	13617	13477
Mark S. Burnham	29009	19011	19371	27487	—	—	—	—
Presqu'île	301487	311749	286695	275860	37307	41175	29974	31251
Serpent Mounds	104569	108848	103920	126820	15483	15999	11632	12975
<b>PEMBROKE</b>								
Algonquin	466983	580392	470661	470089	77676	100841	71771	74646
Carson Lake	3107	6018	5146	5965	3578	5411	3434	3403
Driftwood	14791	15297	12671	11884	7317	8816	6567	6702
<b>TWEED</b>								
Black Lake	42727	51598	57238	76118	8537	10488	7535	8050
Bon Echo	39314	84610	98547	92629	8922	18714	14705	15994
Lake St. Peter	29372	21253	38014	38639	4902	5768	3356	3379
Outlet Beach	209112	281346	299665	375151	15504	26929	16885	17992
Sandbanks	—	23197	14394	26073	—	—	—	—
<b>NORTH BAY</b>								
Antoine	22346	12872	16989	32629	2365	2051	1585	1270
Finlayson Point	40002	31426	47474	103324	7754	8649	6287	7184
Marten River	63225	71473	109823	81951	14024	17142	12118	12695
Samuel de Champ.	18102	40406	49675	47118	4897	8436	7913	8814

Table No. 2 (Cont'd.)

Administrative District And Park Name	1961	Total 1962	Visitors 1963	1964	1961	Total 1962	Campers 1963	1964
PARRY SOUND								
Grundy Lake	93303	157746	144074	149672	21898	31596	22699	34470
Killbear Point	105675	157279	215561	199819	18718	29543	21228	23881
Mikisew	42904	37239	65105	26949	8421	10206	6968	5928
Oastler Lake	120057	132342	139931	144590	14956	19686	13290	13569
Restoule	—	9937	15035	31449	—	4073	3122	3889
Sturgeon Bay	23751	23502	30195	33419	8377	7290	5562	5999
CHAPLEAU								
Five Mile Lake	3713	7359	11704	3379	926	2758	2366	2609
GOGAMA								
Ivanhoe Lake	2683	4038	16102	13337	998	3592	3511	3352
SAULT STE. MARIE								
Lake Superior	46508	69296	103359	96299	31170	30406	30663	35293
Pancake Bay	69581	75737	70035	102922	26527	29128	22332	23926
SUDBURY								
Chutes	—	1192	16281	15301	—	1179	7927	12087
Fairbank	28384	38966	54546	36933	12290	13515	11778	9661
Killarney	—	—	3415	11533	—	—	425	1807
Windy Lake	55696	82726	122612	92772	4222	4249	3772	3514
WHITE RIVER								
Obatanga	—	—	—	20454	—	—	—	10703
White Lake	—	41275	70511	66635	—	29881	24004	20606
COCHRANE								
Greenwater	6222	9961	15844	17220	1266	1808	1030	2348
Kettle Lakes	50544	66223	65311	58069	3370	4448	3752	4281
KAPUSKASING								
Nagagamisis	14026	13539	20959	17840	1962	2412	2478	2019
Remi Lake	25773	29452	25587	26851	3387	4036	3192	3622
SWASTIKA								
Esker Lakes	21072	26489	26211	36441	3312	4139	3498	4297
Kap-Kig-Iwan	30258	34116	25388	46648	2319	3303	2954	2957
GERALDTON								
Blacksand	14139	12085	24659	22296	8211	8789	6481	6442
Klotz Lake	—	—	11310	12967	2362	2367	1841	2469
MacLeod	16420	41706	73862	67742	3891	4836	3330	3399
Neys	—	—	30080	34286	—	—	8683	12052
Rainbow Falls	45815	85497	85515	84029	28960	30150	25419	23165
PORT ARTHUR								
Inwood	10208	13727	21634	22005	6847	9543	12064	12058
Kakabeka Falls	279622	305585	371373	409981	16102	20637	21557	24033
Middle Falls	55529	53570	52751	46189	9888	9039	8204	7168
Shuniah	52461	—	—	—	10978	—	—	—
Sibley	45070	31644	47650	39610	13836	13664	12718	12640
FORT FRANCES								
Caliper Lake	21832	30631	41358	30462	6254	6582	7177	7010
Lake of the Woods	14665	10842	15759	19373	655	1007	1210	1243
Quetico	66531	37056	84357	50487	5749	5958	4448	4127
KENORA								
Aaron	26173	33310	46972	67050	7681	7206	9359	11497
Blue Lake	24099	33376	31867	39759	6317	8937	6496	7147
Rushing River	59980	48689	67021	94208	14637	13511	10650	13701
Sioux Narrows	24676	36016	36620	30733	6284	5487	4039	4100
SIOUX LOOKOUT								
Ojibway	—	—	6038	6464	—	1157	988	1192
Pakwash	—	—	6917	4151	—	1074	1111	1226
PROVINCIAL TOTALS	6215370	7820994	8526443	9147218	862559	1063229	840491	916281

Table No. 3 (a)

## PROVINCIAL PARKS IMPROVEMENTS (BUILDINGS) (as of March 31, 1965)

DISTRICT PARK	Park Offices	Entrance Control Booths	Camp- ground Offices	Resi- dences	Summer Staff Living Quarters	Main- tenance Buildings	Concession Buildings	Change Houses	Comfort Stations	Earth Pit Toilets	Picnic Shelters	Museums
CHAPLEAU												
Five Mile Lake .....	1				1			2		32	1	
COCHRANE												
Charles Island .....										2		
Greenwater .....	1					1		2		14		
Kettle Lakes .....	1				1	1	1	4		37	1	
FORT FRANCES												
Caliper Lake .....	1			1		1		2	1	9	1	
Lake of the Woods .....		1		1		1		4		12		
Quetico .....	1	1	1	1	1	1	1	2	2	12	1	1
GERALDTON												
Blacksand .....	1							2		21		
Klotz Lake .....	1									8		
MacLeod Lake .....	1					1		2		20	1	
Neys .....	1					1		2		14		
Rainbow Falls .....	1					1		2		32		
GOGAMA												
Ivanhoe Lake .....	1					1		2		24		
KAPUSKASING												
Nagagamisis .....	1				1	1		2		40		
Remi Lake .....	1					1	1	2		28		



# KEMPTVILLE

Fitzroy .....	1	2	1	10	38	1
Rideau River .....	1		1	4	24	1
Silver Lake .....	1		1	4	20	
South Nation .....	1				6	

# KENORA

Aaron .....	1			2	20	1
Blue Lake .....	1			2	23	1
Rushing River .....	1		1	2	23	1
Sioux Narrows .....				2	12	1

# LAKE ERIE

Clay Creek .....	1				2	1
Holiday Beach .....	1			8	6	
Ipperwash .....	1		1	4	2	2
John E. Pearce .....					4	
Long Point .....	2	2	3	8	11	
Pinery .....	1	2	1	12	71	
Port Bruce .....			1	2	4	
Rock Point .....	1		2	4	6	2
Rondeau .....	1	1		12	16	
St. Williams .....		2	1		4	
Turkey Point .....	1	1	1	4	41	1
Whcatley .....	1	2	1	8	4	

# LAKE HURON

Craigleith .....	1		1	2	37	1
Inverhuron .....	1	1	1	2	8	1
Point Farms .....	1		1		3	1
Sauble Falls .....	1	1				

# LAKE SIMCOE

Bass Lake .....	1		1	2	17	2
Devils Glen .....	1				5	
Earl Rowe .....					21	
Mara .....	1		1	2	12	1
Sibbald Point .....	1	1	3	6	64	
Six Mile Lake .....	1	1	1	2	45	2
Springwater .....	1	1	1		2	
Wasaga Beach .....	1	1		14		1

Table No. 3(a) (Cont'd)

## PROVINCIAL PARKS IMPROVEMENTS (BUILDINGS) (as of March 31, 1965)

DISTRICT PARK	Park Offices	Entrance Control Booths	Camp- ground Offices	Resi- dences	Summer Staff Living Quarters	Main- tenance Buildings	Concession Buildings	Change Houses	Comfort Stations	Earth Pit Toilets	Picnic Shelters	Museums
<b>LINDSAY</b>												
Balsam Lake .....		1				1		2		17		
Darlington .....	1	1	1	1	1	1	1	6		42	3	
Emily .....	1					1	1	4	1	16	2	
Mark S. Burnham .....						1				4	1	
Presqu'île .....	1	1	3	2	2	1	2	9	7	38	2	1
Serpent Mounds .....	1					1		4	1	18	1	
<b>NORTH BAY</b>												
Antoine .....	1									16		
Finlayson Point .....		1			3			2	1	17		
Marten River .....	1	1		2	1	1		2	2	66		
Samuel de Champlain .....	1	1		1	1	1		6		40		
<b>PARRY SOUND</b>												
Grundy Lake .....	1		2		4	1		2		102	1	
Killbear Point .....	1		2	1	4	1		2		158		
Mikisew .....	1							2		28	1	
Oastler Lake .....	1							2	1	14	1	
Restoule .....								2		43		
Sturgeon Bay .....	1			1				2		16		
<b>PEMBROKE</b>												
Algonquin .....	3	8	8	9	22	1	3	4	8	190		2
Carson Lake .....		1			1			1		10		
Driftwood .....		1			1					18		
<b>PORT ARTHUR</b>												
Inwood .....	1	1			1	2				12		
Kakabeka Falls .....	1	1			2	2	1	4	2	10		1
Middle Falls .....	1	1			2	1			1	4		
Sibley .....	1	2	1		3	1		2		38	1	

## SAULT STE. MARIE

Lake Superior .....	1	4		5	2	10	96
Mississagi .....				2	2		4
Pancake Bay .....	1	1	2		1	4	66

## SIOUX LOOKOUT

Ojibway .....		1				2	14
Pakwash .....		1		1	1	2	24

## SUDBURY

Chutes .....	1						20
Fairbank .....	1					2	22
Killarney .....		1					7
Windy Lake .....	1	1			1	3	30

## SWASTIKA

Esker Lakes .....	1		1		1	4	28
Kap-Kig-Iwan .....	1			1	1	2	26

## TWEED

Black Lake .....	1					2	30
Bon Echo .....		1		4	1	2	65
Lake on the Mountain .....						1	
Lake St. Peter .....	1					2	16
Outlet Beach .....	1	1	2	4	1	12	39
Sandbanks .....		1		1		2	20

## WHITE RIVER

Obatanga .....	1				1	2	22
White Lake .....	1				1	2	44

## Provincial Totals

	65	58	28	37	87	62	33	256	111	2346	49	8
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Table No. 3 (b)

PROVINCIAL PARKS IMPROVEMENTS (GENERAL DEVELOPMENT)  
(as of March 31, 1965)

DISTRICT PARK	Swimming Beaches (Feet)	Park Roads Internal (Miles)	Bridges	Camping Units	Organized Group Camp Areas No. of Areas (Campers)	Overflow Camp Areas (Acres)	Picnic Areas Acres	Parking Areas—Car Capacity	Wells	Water Pressure Systems	Docks	Boat Launching Ramps
CHAPLEAU												
Five Mile Lake	500	3½		87			4	245	60	10	2	1
COCHRANE												
Charles Island	600	5	4	12		2	1½	15			1	
Greenwater	4,000	14		25	1	10	15	165	125		4	2
Kettle Lakes				95	2	5	35	670	400	1	7	3
FORT FRANCES												
Caliper Lake	330	2½		87			5	137	60	1	1	1
Lake of the Woods	1,500	6½		87			6	165	200		1	1
Quetico	805	4		115			5	105	460	1	2	1
GERALDTON												
Blacksand	5,250	5½	4	168	1	1	6	30	100	6		1
Klotz Lake		1¼		33	1		1	9		2	2	1
MacLeod Lake	4,240	2		54	1		5	75	324	7	3	2
Ney's	5,280	3½	¼		1	5	2	30	30	8		
Rainbow Falls	300	4½	1	175	1	4	5	22	50	9	1	2
GOGAMA												
Ivanhoe Lake	8,500	6¼		135	1		17½	90	125	6	1	4
KAPUSKASING												
Nagagamisis	3,000	4½		80		15	40	240	250	5		1
Remi Lake	2,100	3	1	70		¼	26	325	500	5	2	1
KEMPTVILLE												
Fitzroy	400	5	¼	251	1		20	200	275	12	2	1
Rideau River	1,587	3¼		191	2		22	333	650	6	3	2
Silver Lake	650	2		197		1½	2½	127	181	6	2	1
South Nation			¾	28			8	157	180			



# KENORA

Aaron	200	2½	1	60			7	80	50	2	1	1
Blue Lake	900	3		100	1	30	2	3	80	1	1	1
Rushing River	400	3	2	100			20	5	230	1	1	1
Sioux Narrows	150	1½		60				2	140	1	1	1

# LAKE ERIE

Clay Creek		¾	1	47			4	170	200	1	3	1
Holiday Beach	1,700	3¼		56			83	1726	886	5		1
Ipperwash	1,600	3½	2	260			8	405	700			2
John E. Pearce		¾					2	55	50	1		
Long Point	6,000	10		325			12	505	2,000	15		1
Piney	24,400	24	2	1075	19	400	10	1537	5,100	61	2	2
Port Bruce	1,000	¼					4¼	50	200			
Rock Point	400	1		47		200	10	121	235	1	1	2
Rondeau	18,500	23½		509	4			1531	1,500	45		
St. Williams		½	1				5	95	100	1		
Turkey Point	1,200	9		476			3	1467	490	4		1
Wheatley	5,280	1	1¾	300	1	100	10	58	920	1		1

# LAKE HURON

Craigeleith	3,100	2	3	170			12	167	175	4		
Inverhuron	2,000	7	1½	331	3	200	9	25	400	6		1
Point Farms	1,600	2½	1	115			10	185	200	3		
Sauble Falls		3	2½	146	1	200	3	9½	179	3	1	1

# LAKE SIMCOE

Bass Lake	350	2½		154	2	200	2	18	526	600	1	
Devil's Glen		½		20			5	6	100	100	1	
Earl Rowe		2½	3	76	2	300	2	40	500	300	10	
Mara	550	4		75				21½	300	350	4	
Sibbald Point	2,000	14		650	1	250	15	130	1250	2,500	18	1
Six Mile Lake	700	5	2	150	2	100	3	15	233	330	8	1
Springwater		3						63	650	700	1	1
Wasaga Beach	39,000	7	1					180	575	5,000	7	3

Table No. 3 (b) (Cont'd)

PROVINCIAL PARKS IMPROVEMENTS (GENERAL DEVELOPMENT)  
(as of March 31, 1965)

DISTRICT PARK	Swimming Beaches (Feet)	Park Roads Internal Access (Miles)	Park Roads (Miles)	Bridges	Camping Units	Organized Group Camp Areas No. of Areas	Organized Group Camp Capacity (Campers)	Overflow Camp Areas (Acres)	Picnic Areas Tables Acres	Parking Areas—Car Capacity	Wells	Water Pressure Systems	Docks	Boat Launching Ramps
LINDSAY														
Balsam Lake	1								1400		6		1	
Darlington	1,000	11		1	230	2	60		40	1,600	10	4	2	1
Emily	650	1½			88			15	25	518	10	3	11	3
Mark S. Burnham	2								4	50	2			
Presqu'île	7,920	14¼		1	500	8	350	20	110	2,700	28	16	13	
Serpent Mounds	600	3¾			95			15	30	397	8	1	4	3
NORTH BAY														
Antoine			1		29				13	48		5		1
Finlayson Point	216		4½		114				4½	41	7	1	2	
Marten River	1000	11		1	237	1	20		6	354	10	4	2	4
Samuel de Champlain	1400	11			224	2	60		15	551	14	1		5
PARRY SOUND														
Grundy Lake	1650	19¾	1½	2	485	3	90	2	8	340	19	5	5	5
Killbear Point	14000	22	6		722	3	90	5	30	222	23	4	5	3
Mikisew	1500	3	1		123				10	60	7	2	2	1
Oastler Lake	600	1½			120				2	90	1	2	2	1
Restoule	4000	6¼	6	1	258				12	33	6	2	2	2
Sturgeon Bay	150	¾			87				¼	20	2	2	2	1
PEMBROKE														
Algonquin	3500	125			1298	2	550	40	7	625	41	5	28	3
Carson Lake	300	1			44			2	1	30	1	1		1
Driftwood	3000	3			85			2	1	40	7	1		1
PORT ARTHUR														
Inwood	100	1¼			62			3	2	31	6			
Kakabeka Falls	1800	4		1	104	1	50		32	331	2	2		
Middle Falls	1	1			30	1	50	1	6	126	2	1		
Sibley	2000	42		2	350	3	150	5	25	255	14		2	2

## SAULT STE. MARIE

Lake Superior	12800	12¼	4	316			53½	186	262	8	1	1
Mississagi		1¼					8¾	28	90	1		1
Pancake Bay	10800	5½	9	288	1	30	8¼	400	144	1		

## SIOUX LOOKOUT

Ojibway	300	5		58	2	40	2	32	48	1	1	2	1
Pakwash	3500	1½		57	1	20	2	19	40	2		2	1

## SUDBURY

Chutes	550	1½		97			4	25	50	2			
Fairbank	1300	2½	8½	132	1	30	2	260	200	8	1		1
Killamey	600	2¾		100				40	100	3	1	1	
Windy Lake	5000	2½	1	76	1	40	1	100	423	460	10	2	1

## SWASTIKA

Esker Lakes	1200	3	12½	136	1	100	4	35	160	400	10	1	5	1
Kap-Kig-Iwan		2½	1½	64	1	100	4	30	256	300	5	2		

## TWEED

Black Lake	500	3	1	200				14	109	150	4	2	4	3
Bon Echo	2100	6¼		400				35	570	220	7	3	3	
Lake on the Mountain					8	200	2							
Lake St. Peter	1000	1¾	1	60				4	25	40		1		
Outlet Beach	10000	7	2¾	400	4	100		5	85	90	6	1	2	2
Sandbanks	12000	2						200	1227	2000	16	7	4	4
								40	85	680	2	1		

## WHITE RIVER

Obatanga	1600	2½	1	84	1	10	5	10	40	50	9		2	1
White Lake	3600	7¼	3	225	1	75	5	8	395	200	12		2	2

Provincial Totals	262,310	570¼	61¼	58	15250	96	4840	285¾	1918¼	27873	44504	648	198	161	102
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Table No. 3 (c)

## PROVINCIAL PARKS IMPROVEMENTS (MISCELLANEOUS)

(as of March 31, 1965)

DISTRICT AND PARK	Nature Trails (Miles)	Walking and Hiking Trails (Miles)	Canoe Routes (Miles)	Outdoor Exhibit Centres	Amphi- theatres	Skating Rinks	Toboggan Slides	With Tows	Ski Hills Without Tows	Hydro Lines (Miles)	Sewage Lagoons
COCHRANE											
Greenwater Kettle Lakes	1 1/2	5 3/4								1/4	
FORT FRANCES											
Caliper Lake										1/2	
Quetico Blacksand	4	7	900		1					1/2	
GERALDTON											
McLeod		1									
Ney's		1									
Rainbow Falls		2								1 1/2	
GOGAMA											
Ivanhoe Lake		1									
KAPUSKASING											
Remi Lake	1/2									1 1/2	
KEMPTVILLE											
Fitzroy										3/4	
Rideau River										1 1/2	
Silver Lake										1 1/4	
KENORA											
Aaron					1					1	
Blue Lake					1					1/4	
Rushing River					1					1	
Stouxx Narrows	1 1/2									1/4	



# LAKE ERIE

Holiday Beach							1 1/4
Ipperwash							1 1/2
Long Point							1 1/4
Pinery						1	12 1/4
Rondeau	3	2					10 1/2
Turkey Point	5	6					1 1/4
Wheatley							1 3/4

# LAKE HURON

Craigleith	1 3/4						1 1/4
Inverhuron					1		2 1/2
Point Farms							1 1/4
Sauble Falls							3/4

# LAKE SIMCOE

Bass Lake							1 1/2
Mara							1 1/2
Sibbald Point							3 1/2
Six Mile Lake							1 1/2
Springwater							3/4

# LINDSAY

Balsam Lake							1
Darlington							2
Mark S. Burnham	1						
Presqu'île	3						
Serpent Mounds					1		

# NORTH BAY

Finlayson Point							1 1/4
Marten River							1 1/4
Samuel De Champlain		2 1/2					1 1/4

# PARRY SOUND

Grundy Lake							1 3/4
Killbear Point	1 1/2	3					5/4
Oastler Lake							1 1/4
Mikisew							1 1/4
Restoule		1/4					1 1/4
Sturgeon Bay		2					1 1/4

# PEMBROKE

Algonquin	7	1	800			2	1
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Table No. 3(c)

PROVINCIAL PARKS IMPROVEMENTS (MISCELLANEOUS)  
(as of March 31, 1965)

DISTRICT AND PARK	Nature Trails (Miles)	Walking and Hiking Trails (Miles)	Canoe Routes (Miles)	Outdoor Exhibit Centres	Amphi- theatres	Skating Rinks	Toboggan Slides	With Tows	Ski Hills Without Tows	Hydro Lines (Miles)	Sewage Lagoons
<b>PORT ARTHUR</b>											
Kakabeka Falls		3½				1	5			1½	
Middle Falls										1½	
Sibley	8½	7			1					1	
<b>SAULT STE. MARIE</b>											
Lake Superior	4				1					5¾	
Pancake Bay					1						
<b>SUDBURY</b>											
Fairbank		1½			1						
Killarney		7								2	
Windy Lake					1						
<b>SWASTIKA</b>											
Esker Lakes		5		1	1					1½	
Kap-Kig-Iwan	½	3		1	1						
<b>TWEEED</b>											
Black Lake					1					1½	
Bon Echo		2								1½	
Lake on the Mountain										1½	
Lake St. Peter	2									1½	
Outlet Beach					1					2	
Sandbanks										1½	
<b>WHITE RIVER</b>											
Obatanga			4								
White Lake	½				1						
Provincial Totals	45½	67½	1722	6	28	2	12	1	1	64½	2

## PARKS MISCELLANEOUS REVENUE

In Year Ending March 31, 1965

District	Park	Daily Vehicle Permits	Annual Vehicle Permits	Campsite Permits	Miscellaneous	Concessions	Total
Lake Erie	Clay Creek	449.50	783.00	770.00	10.00		2,012.50
	Holiday Beach	8,807.00	5,367.00	2,013.00	81.95	1,764.88	18,033.83
	Upperwash	5,401.00	8,397.00	24,589.50	609.50	3,197.33	42,194.33
	Long Point	3,893.50	7,938.00	15,605.25	93.22		27,529.97
	Piney	12,849.00	24,234.00	48,107.00	425.00	9,588.91	95,203.91
	Rock Point	711.50	1,479.00	1,455.00	2.01		3,647.51
	Rondeau	17,977.00	23,496.00	25,826.00	422.50	6,240.32	73,961.82
	St. Williams	734.00	345.00				1,079.00
	Turkey Point	673.50	3,183.00	7,468.00	320.17	1,200.00	12,844.67
Lake Huron	Craigleith	1,458.50	4,299.00	8,373.50	7.06	830.00	14,968.06
	Inverhuron	2,279.00	7,023.00	14,990.00	560.95	100.00	24,952.95
	Sauble Falls	2,230.00	4,272.00	8,712.00	5.00	104.00	15,323.00
Lake Simcoe							
	Bass Lake	2,704.00	8,568.00	10,856.00	14	1,485.00	23,613.14
	Devils Glen	887.00	2,094.00	1,210.00	13.29		4,204.29
	Earl Rowe	1,466.00	3,915.00	3,594.00	1,834.75		10,809.75
	Sibbald Point	13,297.00	19,308.00	25,094.00	11.54	9,843.64	67,554.18
	Six Mile Lake	1,863.50	5,334.00	8,411.00			15,608.50
	Springwater	5,993.00	6,561.00			2,430.58	14,984.58
Kemptville	Wasaga Beach	25,820.00	18,240.00		594.86		44,654.86
	Fitzroy	1,567.00	2,709.00	3,972.00			8,248.00
	Rideau River	4,370.50	7,527.00	9,595.00		33.00	21,525.50
	Silver Lake	1,485.00	4,269.00	10,296.00			16,050.00
Lindsay	South Nation	1,715.00	1,239.00	1,979.00			4,933.00
	Balsam Lake	162.00	906.00	2,099.00			3,167.00
	Darlington	4,755.50	7,146.00	5,877.00	15.00	700.00	18,493.50
	Emily	2,888.00	7,962.00	10,188.00	18.00	1,314.89	22,370.89
	Presqu'ile	6,754.00	12,330.00	18,013.00	50.50	1,844.06	38,991.56
	Serpent Mounds	2,497.00	5,679.00	9,014.00			17,190.00

Table No. 4

## PARKS MISCELLANEOUS REVENUE

In Year Ending March 31, 1965

District	Park	Daily Vehicle Permits	Annual Vehicle Permits	Campsite Permits	Miscellaneous	Concessions	Total
Pembroke	Algonquin	24,071.50	36,531.00	65,480.00		44,357.43	170,466.65
	Carson Lake	143.00	660.00	2,279.00			3,082.00
	Driftwood	648.00	1,437.00	4,406.00			6,491.00
Tweed	Black Lake	747.00	2,412.00	6,630.00			9,789.00
	Bon Echo	1,605.00	5,676.00	16,496.00		105.00	23,882.00
	Lake St. Peter	263.50	1,236.00	3,431.00			4,930.50
	Outlet Beach	7,715.50	14,235.00	19,058.00	46.75	2,263.85	43,319.10
	Sandbanks	117.00	411.00				528.00
North Bay	Antoine	174.50	300.00	779.00			1,253.50
	Finlayson Point	564.00	2,217.00	6,815.00	32.25		9,628.25
	Marten River	1,073.50	3,726.00	10,124.00	14.60		14,938.10
	Samuel de Champlain	1,421.50	2,139.00	4,819.00			8,379.50
Parry Sound	Grundy Lake	1,601.00	5,664.00	19,250.00			26,515.00
	Killbear Point	1,405.50	7,131.00	27,590.00	44.92		36,171.42
	Mikisew	436.50	1,764.00	5,790.00	15.42		8,005.92
	Oastler Lake	1,537.50	4,245.00	9,222.00	7.50		15,012.00
	Restoule	229.50	1,206.00	4,398.00			5,833.50
	Sturgeon Bay	531.00	1,518.00	5,240.00			7,289.00
Chapleau	Five Mile Lake	316.00	642.00	1,879.00			2,837.00
Gogama	Ivanhoe Lake	409.00	981.00	3,211.00			4,601.00
Sault Ste. Marie	Lake Superior	3,049.00	4,089.00	13,226.00			20,364.00
	Pancake Bay	2,089.00	3,726.00	9,533.00			15,348.00
Sudbury	Chutes	1,074.00	1,200.00	3,282.00	123.20		5,679.20
	Fairbank	1,323.50	2,265.00	4,740.00	262.85		8,591.35
	Killarney	288.50	639.00	1,730.00			2,657.50
	Windy Lake	1,569.00	2,601.00	3,059.00	16.11	400.00	7,645.11



White River	Obatanga	1,002.50	894.00	3,757.00		5,653.50
	White Lake	2,264.50	2,391.00	9,707.00		14,362.50
Cochrane	Greenwater	461.00	633.00	1,251.00	.15	2,345.15
	Kettle Lakes	1,816.50	2,647.00	2,412.00	175.00	7,050.50
Kapuskasing	Nagamamis	198.00	696.00	2,931.00		3,825.00
	Remi Lake	811.00	2,094.00	2,204.00	150.00	5,259.00
Swastika	Eske Lakes	656.50	1,629.00	3,429.00	55.00	5,769.50
	Kap-Kig-Iwan	798.00	1,158.00	1,261.00		3,217.00
Geraldton	Blacksand	508.50	714.00	3,007.00		4,229.50
	Klotz Lake	111.50	252.00	1,323.00		1,686.50
	MacLeod	499.50	2,010.00	2,666.00		5,175.50
	Neyls	1,440.50	663.00	3,360.00	.87	5,464.37
	Rainbow Falls	3,069.50	1,653.00	6,986.00	44.52	11,753.02
Port Arthur	Inwood	1,231.00	801.00	3,284.00		5,316.00
	Kakabeka Falls	17,739.00	8,097.00	8,616.00	7,028.82	41,480.82
	Middle Falls	1,482.50	1,320.00	1,935.00		4,737.50
	Sibley	2,091.00	3,072.00	6,101.00	346.00	11,610.00
Fort Frances	Caliper Lake	1,150.00	1,404.00	3,646.00	6.98	6,206.98
	Lake of the Woods	690.00	645.00	829.00		2,164.00
	Quetico	764.00	2,628.00	4,203.00	15,785.22	23,655.22
Kenora	Aaron	1,545.50	1,794.00	3,810.00		7,149.50
	Blue Lake	926.00	1,866.00	5,668.00		8,460.00
	Rushing River	2,888.50	2,379.00	7,791.00	12.50	13,071.00
	Sioux Narrows	665.00	732.00	2,611.00		4,008.50
Sioux Lookout	Ojibway	188.00	333.00	1,195.00		1,716.00
	Pakwash	297.00	552.00	1,533.00		2,382.00
			78.00			78.00
Head Office Total		235,386.50	356,389.00	626,090.25	21,862.00	1,335,214.46

Table No. 4(a)

The Miscellaneous Column of Table No. 4 includes revenue from the following sources:

1. Boat Permits (Quetico) .....	\$11,305.00
2. Guide Licenses (Quetico) .....	4,250.00
3. Boat Parking (Quetico) .....	230.00
4. Sale of Wood .....	2,392.50
5. Sale of Ice .....	346.00
6. Sale of Buildings .....	2,270.00
7. Deposit Bag Refunds .....	95.00
8. Sale of Hydro .....	425.00
9. Pay Telephone Commission .....	319.68
10. Sale of Sanitary Supplies .....	84.85
11. Sale of Hay .....	134.75
12. Other .....	9.22
<b>TOTAL</b> .....	<b>\$21,862.00</b>

Table No. 5

# SUMMARY OF ATTENDANCE FOR INTERPRETIVE PROGRAMMES Year Ending March 31, 1965

		Attendance
<b>Algonquin Provincial Park</b>		
Museum Attendance (estimated)	137 days	193,850
Pioneer Logging Exhibit (estimated)	106 days	81,410
Conducted Trips	60 trips	4,614
Labelled Trail Registration	4 trails	52,100
Evening Lecture Programmes	56 programmes	17,207
Special Groups	50	3,711
	<b>Total</b>	<b>352,892</b>
<b>Rondeau Provincial Park</b>		
Museum Registration	82 days	22,136
Conducted Trips	44 trips	610
Outdoor Theatre Programmes	20 programmes	2,542
Special Groups	9	265
	<b>Total</b>	<b>25,553</b>
<b>Sibley Provincial Park</b>		
Conducted Trips	34 trips	460
Outdoor Theatre Programmes	19 programmes	3,215
Labelled Trails	3 trails	no record
	<b>Total</b>	<b>3,675</b>
<b>Presqu'île Provincial Park</b>		
Museum Attendance (estimated)	85 days	21,200
Conducted Trips	27 trips	1,199
Labelled Trail Registration	2 trails	3,651
Outdoor Theatre Programmes	30 programmes	8,508
Special Groups	5	348
	<b>Total</b>	<b>34,906</b>

		Attendance
<b>Quetico Provincial Park</b>		
Museum Attendance (estimated)	73 days	5,306
Conducted Trips	23 trips	558
Labelled Trail Registration	3 trails	804
Outdoor Theatre Programmes	17 programmes	1,838
Special Groups	3	53
Total		8,559
<b>Sibbald Point Provincial Park</b>		
Museum Attendance	93 days	23,609
<b>Wasaga Beach Provincial Park</b>		
Nancy Island Museum Registration	78 days	19,781
<b>Pinery Provincial Park</b>		
Conducted Trips	63 trips	1,960
Outdoor Theatre Programmes	16 programmes	9,000
Special Groups	11	303
Labelled Trail	1 trail	no record
Total		11,263
<b>Lake Superior Provincial Park</b>		
Conducted Trips	15 trips	316
Outdoor Theatre Programmes	15 programmes	2,820
Labelled Trail	1 trail	1,000
Special Groups	5	166
Total		4,302
<b>Inverhuron Provincial Park</b>		
Exhibit Centre Attendance (estimated)		23,500
Labelled Trail Attendance	1 trail	19,800
Total		43,300
<b>Kap-Kig-Iwan Provincial Park</b>		
Labelled Trail Attendance (estimated)	1 trail	2,500
<b>Kettle Lakes Provincial Park</b>		
Labelled Trail Registration	1 trail	960
<b>Remi Lake Provincial Park</b>		
Labelled Trail	1 trail	no record

Table No. 6

## INTERPRETIVE PROGRAMMES

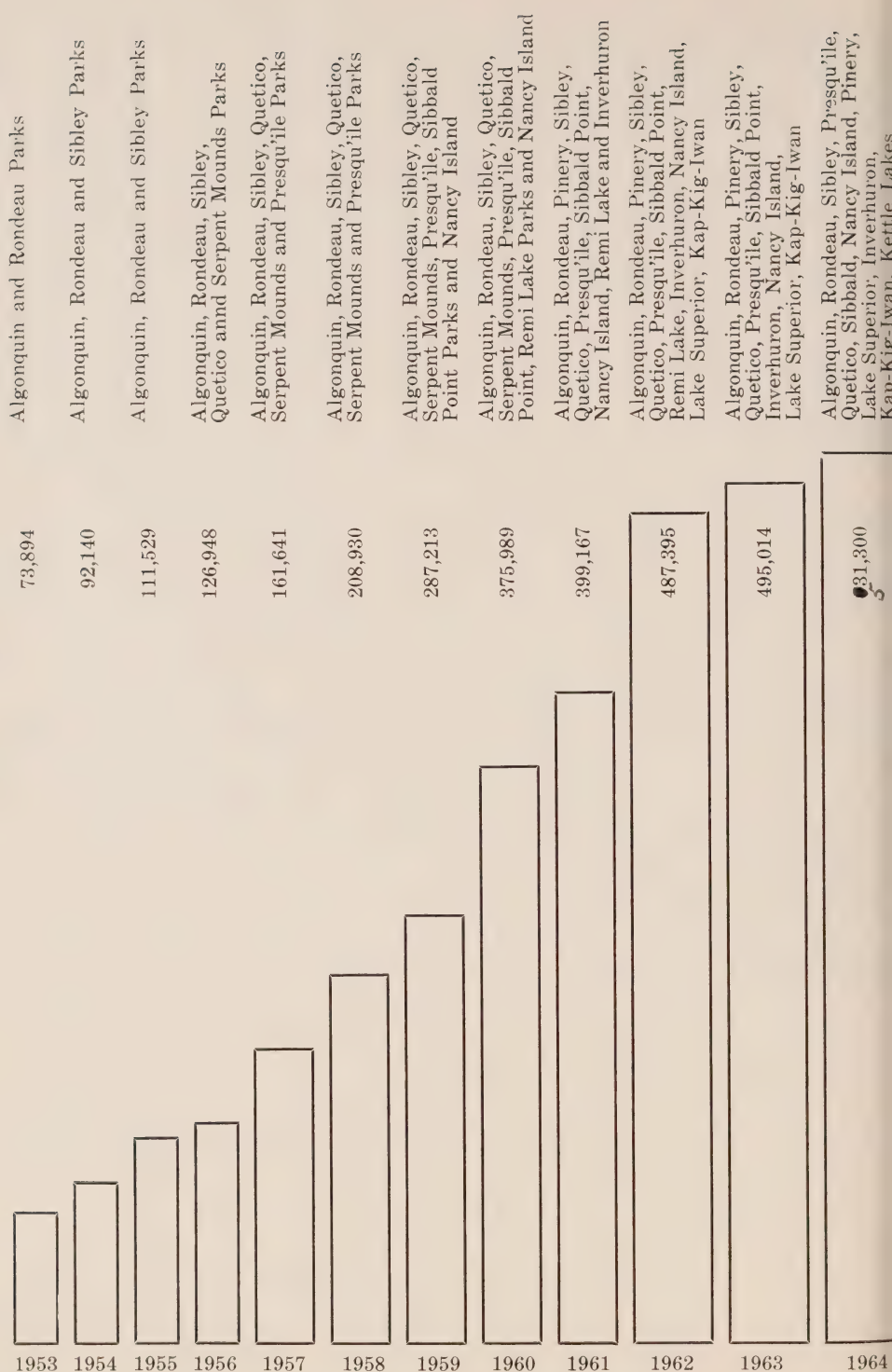


Diagram showing the increase in Interpretive Programme Attendance of Museums, Labelled Trails, Conducted Trips and Lectures.



Table No. 7

YEARLY ATTENDANCE OF PROVINCIAL PARKS MUSEUMS  
LABELLED TRAILS, CONDUCTED TRIPS AND LECTURES

	1947	1948	1949	1950	1951	1952	1953	1954	1955
Algonquin Park	6772	7885	1480	7766	8065	17496	71046	93410	99917
Rondeau Park	903					814	2822	6953	7104
Sibley Park								2474	4525
Quetico Park									
Serpent Mounds Park									
Presqu'île Park									
Sibbald Point Park									
Nancy Island (Wasaga Beach Park)									
Remi Lake Park									
Inverhuron Park									
Pinery Park									
Lake Superior Park									
Kap-Kig-Iwan									
Kettle Lakes									
	7675	7885	1480	7766	8065	18310	73868	102837	111546
	1956	1957	1958	1959	1960	1961	1962	1963	1964
	106946	126946	156570	196386	264357	268310	313133	309163	352892
	8527	13843	25780	34245	31537	30306	33038	34644	25553
	5434	5862	9504	11431	10500	18907	31903	36866	3675
	531	4360	5663	6247	10639	10425	10223	11076	8559
	5661	7986	8100	5454	3675				
		2689	3313	12154	23552	28332	36458	31768	34906
				12123	21571	23421	21516	22244	23609
				9173	9998	13652	21657	21169	19781
					160	96	84		
						1600	7000	8500	43300
						4118	8231	14131	11263
							2652	3203	4302
							1500	2250	2500
									960
	127099	161686	208930	287213	375989	399167	487395	495014	531300



Students at Careers Exposition have Lands and Forests jobs explained to them by booth attendant.



Students receive instruction on the use of the Planer at Ontario Forest Ranger School sawmill.

## PERSONNEL BRANCH

THE Personnel Branch is composed of four sub-sections: Classification and Job Evaluation, Training and Special Assignments, Employee Relations, Employment.

The Classification and Job Evaluation Section is responsible for position administration. This involves the maintenance of position specifications along with the revision and up-dating of class specifications and salary surveys.

The Training Section is responsible for arranging special courses such as the one-week Executive Development Course, along with liaison work in screening educational leave requests through the Educational Leave Committee; liaison with the Ontario Forest Ranger School, Public Administration and other courses that may be related to the employee's job. Special assignments include the processing of grievances.

The Employee Relations Section is designed to investigate all problems relating to personnel work and attempt to improve communications between field and head office staffs.

The employment Section covers the recruitment programme. Included is the annual selection of some 1,500 Junior Forest Rangers for summer employment during July and August. The general office section is also part of this unit and this section maintains personnel records and attendance records, processes nominations and separations and arranges retirements.

### POSITION ADMINISTRATION

The classification programme continued which included identification, analysis of positions, writing of specifications and the determining of salary schedules.

The allocation of positions to the Forestry Technician, Ranger, and the new Conservation Officer series was almost complete with subsequent salary adjustments to employees. Classification responsibilities for the Department were divided among three members of the staff reporting to the classification officer, and each was assigned an area of the Province.

Visits to field locations also continued to be required in order to advise and assist in the preparation of position specifications and organization charts.

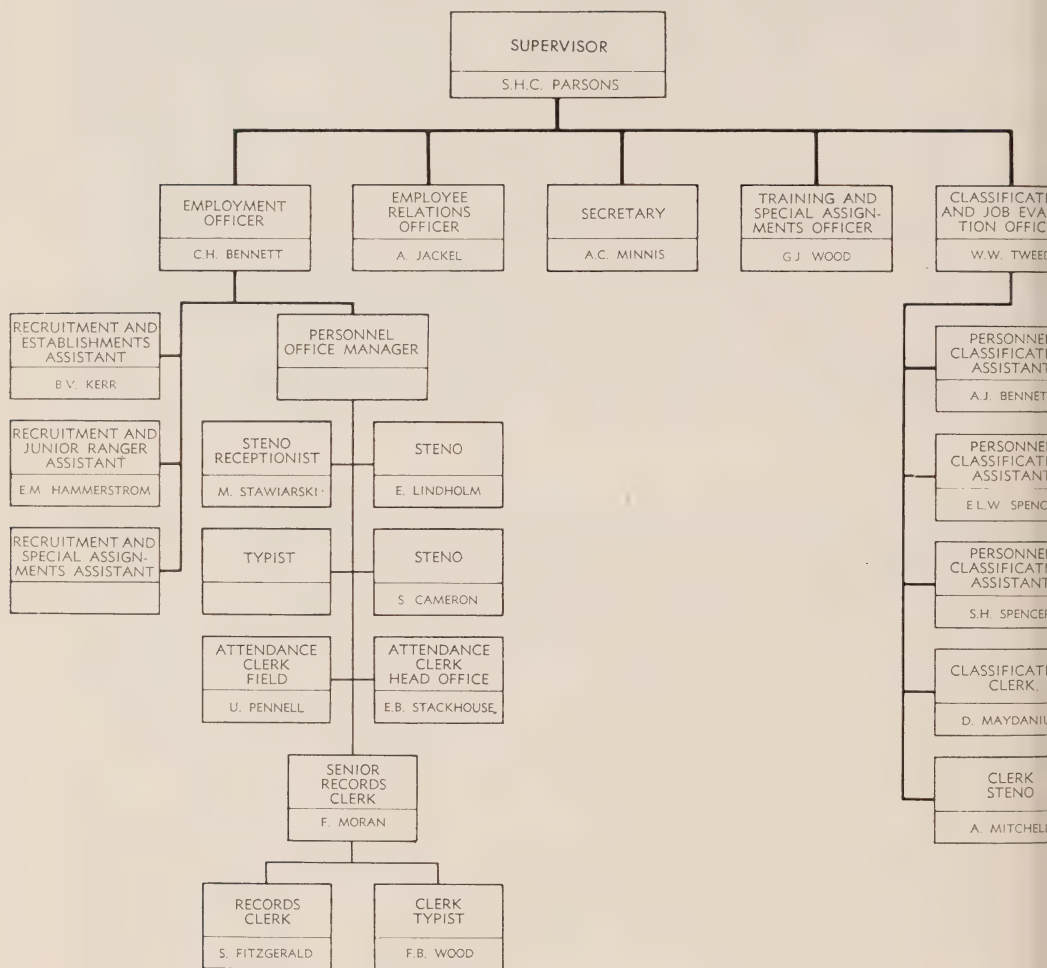
Studies of proposed new series such as Fish Hatchery Technicians are being developed.

### RECRUITMENT

The recruitment programme was re-aligned during the fiscal year to provide improved service to the branches and districts in the filling of vacancies.



# PERSONNEL BRANCH





## JUNIOR FOREST RANGER PROGRAMME

The Junior Forest Ranger programme continues to grow in popularity. In 1961, 619 boys participated. In 1964, 1,519 boys participated. Sixteen districts in the Province share in this programme by providing camps, supervision, and lectures.

## TRANSFERS AND PROMOTIONS

The job advertising routine continued to be used for filling senior positions. Selection committees have been increased at the request of branches and districts.

## TRAINING

### Ontario Forest Ranger School

*Diploma Course:* The enrolment for the 1964 Diploma Course was 87 non-sponsored and 34 sponsored students. The enrolment for 1965 is 113 non-sponsored and 11 sponsored.

*Certificate Courses* were given in Fish and Wildlife, Forest Protection and Timber.

*Other Courses* taken by Lands and Forests personnel included the Senior Officers' Course and Seminar at Guelph, a course for Managers, Supervisory Training Courses, Personnel Officers' courses and the Certificate Course in Public Administration at Toronto University. All of these courses were sponsored by the Department of Civil Service.

Three foresters and two biologists completed the Diploma Course in Resource Management at Toronto University.

Courses given by the Personnel Branch included the four-day Familiarization Course which was attended by 29 new foresters and biologists and a four-day Executive Development Course attended by 26 District Foresters, Supervisors and Head Office representatives.

Other courses attended by Department personnel include the Salary Administration Seminar at McGill University, a Work Study Course at Peterborough, Motor Fleet Supervisors' Course, a one-day Seminar for secretaries, a course on Human Relations in Safety and a Law-Enforcement Course for Senior Fish and Wildlife personnel held at the Ontario Police College, Aylmer.

Employees were given educational leave and assistance was granted to several employees who took extension or correspondence courses in various subjects pertinent to their occupation.

The Department renewed, for one year, the secondment of one forester to the Government of Chile under the auspices of FAO and that for a biologist and a forester to the governments of Tanganyika and Kenya under the Federal External Aid Programme. Dr. C. H. D. Clarke, Chief of the Fish and Wildlife Branch was sent to East Africa to study wildlife management problems and advise government officials in that area.

DEPARTMENT OF LANDS AND FORESTS  
ADMINISTRATIVE TRAINING AND DEVELOPMENT COURSES  
SPONSORED/ARRANGED BY PERSONNEL BRANCH HEAD OFFICE  
FISCAL YEAR 1964-65

Management and Administrative	Lands & Forests	University	Dept. of Civil Service	Others	Details
Diploma Course in Resource Management		Toronto			Five foresters and biologists per year
Certificate Course in Public Administration		Toronto			Eleven employees from Head Office have received certificates (C.S.C.)
Certificate Course in Public Administration				Ryerson	Five employees from Head Office have received certificates
Executive Development Course	Head Office				Twelve courses have been held, approximately 250 attending
Familiarization Course	Head Office				For new foresters, biologists, chief rangers, etc.
Sr. Officers Conferences			Training and Development Branch		Selected Senior Administrators
Sr. Officers Seminars		Guelph	Training and Development Branch		Selected Senior Administrators
Management Courses		Guelph			Selected Head Office Supervisors
Supervisory Training Courses					Selected Head Office first line supervisors

Position Analysis	Position Administration Branch	Representatives from each Branch
Seminars for Personnel	Training and Development Branch	Personnel Officers and Trainees
Communications	Personnel Branch	For Head Office employees, selected field staff and Fish & Wild Life Certificate Course
Supervisory and Administrative Courses	Guelph  McGill Queen's	American Management Association
Position Administration Courses	Position Administration Branch	For Department Personnel Officers and Trainees
Courses covered by Educational Assistance Regulations in natural resources, computer training, accountancy, business administration, etc., both full time, evening courses and correspondence courses	Various	Applications from employees and branch chiefs, district foresters, etc., as authorized by Deputy Minister  Various educational institutions

## GRIEVANCES

Thirty-two employee grievances were submitted during the fiscal year. Of these, nineteen were resolved by the Department or withdrawn and thirteen were still outstanding at the year's end. No grievance went to the Grievance Board for hearing during the year. Twenty-three of the grievances were concerned with classification and eight with working conditions and terms of employment. One was ruled as not being a valid grievance.

## WORKMEN'S COMPENSATION AND SAFETY TRAINING

This section has now been transferred to the Operations Branch.

## TOTAL STAFF AS OF MARCH 31, 1965

	Reg.	Prob.	Monthly Rated	Seasonal	Total
Head Office	575	66	9	27	677
Field	1734	127	15	598	2474
	2309	193	24	625	3151
Total complement of year-round positions as of March 31, 1965					2627
Total Regular, Probationary and Monthly Rated staff as of March 31, 1965					2526
Total vacancies in complement as of March 31, 1965					101
					2627

## NUMBER OF PROFESSIONAL EMPLOYEES

Foresters	Biologists	Civil Engineers	Miscellaneous	Total
226	69	7	27	329
Number of Licenced Scalers on Staff				787
Number of Graduates of Ranger School on Staff				768

The table below indicates the total number of employees on staff for each month of the fiscal year:

1964	Reg.	Prob.	Mthly Rated	Cas.	H.O. Total	Reg.	Prob.	Mthly Rated	Cas.	F.S. Total	Grand Total
Apr.	570	71	10	27	678	1717	139	23	2217	4096	4774
May	565	75	10	62	712	1717	147	23	5315	7202	7914
June	571	79	10	100	760	1726	148	21	4719	6614	7374
July	569	79	10	106	764	1724	151	21	5124	7020	7784
Aug.	578	82	10	97	767	1721	152	21	3739	5633	6400
Sept.	583	77	11	41	712	1719	151	19	3015	4904	5616
Oct.	577	74	11	26	688	1708	153	19	2218	4098	4786
Nov.	574	77	11	26	688	1701	150	18	1272	3141	3829
Dec.	571	83	9	29	692	1701	148	20	931	2800	3492
1965											
Jan.	568	76	9	33	686	1706	151	18	823	2698	3384
Feb.	575	73	9	29	686	1728	140	18	754	2640	3326
Mar.	575	66	9	27	677	1734	127	15	598	2474	3151
Aver.	573	76	10	50	709	1717	146	20	2560	4443	5153



STAFF TURNOVER

The table shown below lists the number of employees who discontinued their service for various reasons, as indicated, during the fiscal year:

	Resigned	Dismissed	Retired	Died	Super- Annuated	Trans- ferred (Intra)	Trans- ferred (Inter)	Total
Head Office	54	2	1	3	4	31	11	106
Field	60	4	3	13	25	78	4	187
Total	114	6	4	16	29	109	15	293

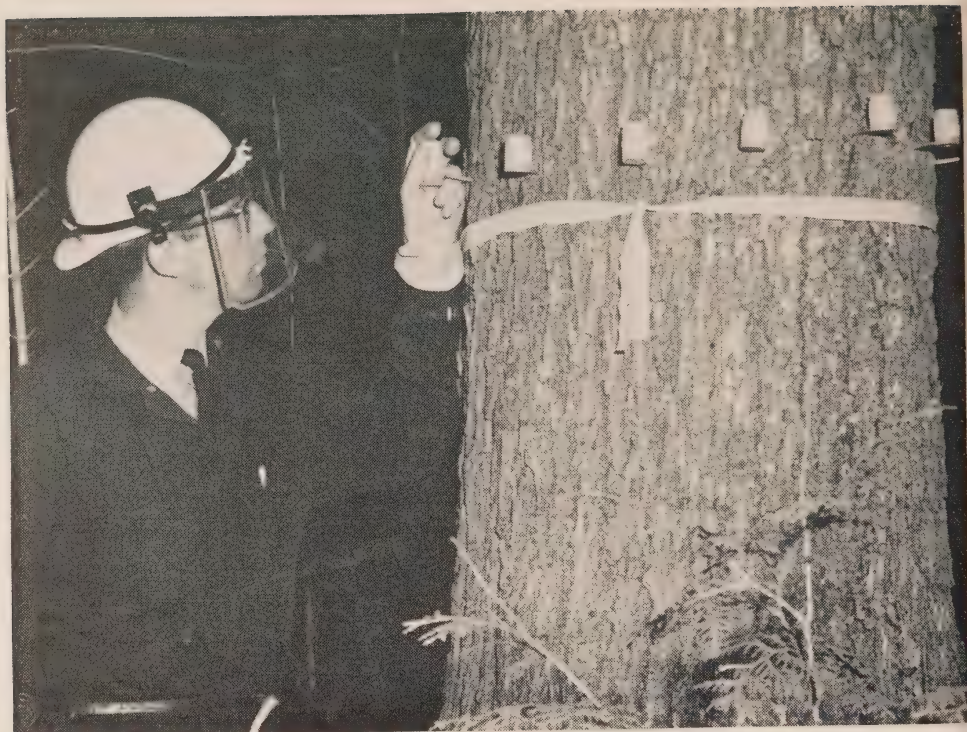
NEW EMPLOYEES

	Male	Female	Total
Head Office	44	20	64
Field	75	24	99
Total	119	44	163

Note: The staff turnover for the fiscal year is — 8.5%. This is the ratio of separations to total regular and probationary staff.

TOTAL PERSONNEL ON STAFF

March 31, 1965	2309	193	625
March 31, 1964	2337	207	650
	28 decrease	14 decrease	25 decrease



Field tests conducted with Bidrin, a systemic insecticide, shows it to be effective in the control of Dutch Elm Disease. The disease-carrying bark beetles are killed when they chew into the bark.



This grouse being mounted by a research worker will be preserved for future study.

## RESEARCH BRANCH

THE Research Branch is given the responsibility to assess the research needs of the Department, to secure co-operation with existing research agencies, and to develop research of its own. Assessment is accomplished largely by conferences with other Branches of the Department, and co-operation is obtained mainly through meetings and correspondence with other existing research agencies. The Research Branch has developed programmes in the fields of Forestry, Fisheries, Wildlife and Mechanical research with the main objective of providing information for the operating Branches to meet their current needs, as well as to give the information necessary to remedy deficiencies of the past and to provide possible requirements in the future. An outline of Research Branch programmes follows:

**FORESTRY SECTION.** *Silviculture*—studies of forest culture, growth and reproduction of the important tree species and associated vegetation. Research includes studies of logging effects upon forest stands; cultural herbicides and controlled fires, seeding and planting. *Site Research*—evaluation of soil features, climate and nutrients to determine best use, and rate of productivity. *Tree Breeding*—selection and breeding of forest tree strains of superior quality and resistance to disease. *Nursery and Planting Practices*—to assist in solution of nursery problems and the planting and care of plantations. *Miscellaneous*—Forest Mensuration (growth and yield), Wood Quality, Forest Economics, and Computer Studies.

**FISHERIES SECTION.** Studies to determine rates of reproduction, growth and mortality of commercial and game fish, and relation of these to environmental conditions. *Great Lakes*—Research Branch responsible for general research on Lakes Huron, Erie and Ontario; Fisheries Research Board of Canada for Lake Superior, as well as sea lamprey control experiment. *Game Fish*—Research units established for study of lake trout, speckled trout, smallmouth bass and walleye. *Selective Breeding*—to obtain brook trout-lake trout hybrid which can survive in presence of sea lampreys. *Miscellaneous*—Lake Productivity unit to classify productive capacity on basis of chemical fertility, Parasites—to identify and assess effects, Limnology (Lake study) unit to study physical and chemical characteristics of Great Lakes.

**WILDLIFE SECTION.** Collects basic information and develops techniques to assist management. *Big Game*—white-tailed deer, moose, woodland caribou. *Predators*—timber wolves. *Upland Game and Waterfowl*—small game animals, such as pheasants and rabbits. *Wildlife Diseases and Parasites*—identification, frequency, distribution and effects. *Furbearers*—habits, behaviour and environment affecting numbers of such animals as beaver and marten.

**MECHANICAL SECTION.** Develops, improves, and tests equipment and instruments to meet special needs of Research Branch and other Branches of Department.



# RESEARCH BRANCH

BRANCH CHIEF: A. P. LESLIE\*

SPECIAL PROJECTS:  
A. R. Fenwick

FORESTRY SECTION:  
D. H. Burton, Supervisor  
*Regional Silviculture*

Tree Breeding	Mid-Western
Site	Northern
Reforestation	Central
Wood Quality	South Central
Forest Economics	South Western
W. Pine Blister Rust	South Eastern

FISHERIES SECTION:  
K. H. Loftus, Supervisor

Great Lakes	Lake Huron
	Lake Erie
	Lake Ontario
Game Fish	Lake Trout
	Brook Trout
	Smallmouth Bass
	Walleye
Maple Headquarters	Selective Breeding
	Limnology
	Parasitology
	Productivity
	Technical Studies

WILDLIFE SECTION:  
R. O. Standfield, Supervisor

Big Game  
Furbearers  
Upland Game & Waterfowl  
Predators  
Diseases & Parasites

MECHANICAL RESEARCH SECTION:  
M. H. Baker, Supervisor

STATISTICS and MENSURATION SECTION:  
T. W. Dwight, Supervisor

ADMINISTRATION:

Personnel  
Budgeting and Accounting  
Equipment  
Reports  
Library  
Public Relations

\*R. N. Johnston retired September 15, 1964.



In fisheries research, a new programme was launched in 1964 with the object of determining a practical classification system for Ontario lakes, based on their potential for fish production. Such a system, it is expected, will provide a yardstick against which biologists may measure the current production level of any lakes to determine whether that production is less than that which is to be expected over a long period of time. This research programme is expected to be of value to both commercial and sport fish research and management.

It is becoming increasingly evident in fisheries research in general that one of the most important problems to be solved is the marked and frequently abrupt changes in abundance of the populations of some of our most valuable commercial and game fish species. This is believed to arise from the sizes of the broods in individual spawning years. The absence of fish of certain ages in the catch of fishermen is clear evidence of brood failures in preceding years. The reasons for these failures are being explored intensively. There may be in a given case only a single causal factor and in others a combination of factors within the ecological complex—which includes water temperatures, enrichment in nutrients, the physical condition of spawning beds and attacks of diseases and parasites.

Forestry research projects in tree breeding, reforestation and silviculture may be mentioned.

In the tree breeding programme, the first controlled pollinations were made in the spring of 1964 with black spruce, white spruce and several exotic spruces. The purpose is to determine the genetic variability of native spruces, the genetic relationships of native and exotic species and the value of certain spruce hybrids.

A project in reforestation research has shown that the quality of planting stock can be improved by correcting the soil acidity of forest tree nursery soils with sulphur applications.

Extensive use of computers was initiated by the Research Branch in 1964. An example of problem-solving is found in the computer-controlled sampling system developed for the Timber Branch to determine the total sound volumes of wood obtained by operators practising tree-length logging in a number of northern districts.

In silvicultural research two programmes have been completed. One was concerned with sulphur fume pollution as it affected forest trees in central Ontario and the other with the regeneration of yellow birch in south-central Ontario.

A product of wildlife research was "A Manual of Common Parasites, Diseases and Anomalies of Wildlife in Ontario," prepared and published in 1964, to assist field staff. These officers are now in a better position to make diagnoses of abnormalities in wildlife, and consequently to properly inform hunters and other members of the public.

Mr. R. N. Johnston retired September 15th, 1964, after nearly 48 years service with the Department. He was appointed Chief of the Research Branch in 1944 and continued in this position until his retirement. He was made Director of Research in 1957.

Shortly after his initial employment with the Department in 1917, following graduation in Forestry, he served as a pilot in World War I. Upon his return he was placed in charge of forest surveys, following which he was engaged in developing a forest fire protection radio communications system. He was in charge of aerial surveying until his appointment to the Research Branch.

Reg Johnston will long be remembered as a promoter and innovator of many useful devices and techniques in Departmental operations and for his tireless efforts in the development of the Research Branch.

## WILDLIFE RESEARCH

Accomplishments in wildlife studies, as in all research, are seldom the products of great inspiration or luck. Usually, they signify the culmination of many years of unspectacular work during which progress was measured by a steady accumulation of data and the discarding of ideas which would not work.

The wildlife research programme, which attempts to support and improve wildlife management in Ontario, had its share of accomplishments, failures and unimpressive progress during the year. If accomplishments in the past year were more numerous than in any of the previous 20 years of life of the Section, they were merely indications that many years of sound planning and work were beginning to prove beneficial.

Several projects, initiated and developed in the Wildlife Research Area of Algonquin Provincial Park, are now being tested under management conditions in other parts of the province. However, the research station continued to function as the centre for most field research on wildlife by Department personnel, staffs and students of the Ontario Research Foundation, University of Toronto and other organizations. The close contact between the Department and outside agencies at this station illustrates the co-operation which is one of the strong points of wildlife research in the province. Over the years the Wildlife Research Station in Algonquin Provincial Park has attracted a large number of visitors. In addition to biologists and other professionals, hundreds of visitors were shown various aspects of the research programmes. Hundreds more could not be accommodated because research responsibilities limited the time which staff could spend on public relations.

Basic research on otter populations in Algonquin Provincial Park neared completion. Fourteen otter were live-trapped, tagged and released as part of the ecological study, which will terminate with an attempt to recover all tagged animals in the summer of 1965. The relative stability of production of otter in Ontario throughout the years is in direct contrast to the fluctuations in numbers of beaver, muskrat and mink which share a similar environment. In addition to providing information unique to the management of otter, this research may also provide an unusual but valid approach to understanding of the population changes shown by the other aquatic mammals.

Census methods for beaver, primarily house-counts along aerial transects to sample large areas and intensive surveys of experimental plots, have been used for several years to provide data for research and management programmes throughout the province. Developed initially in research on Algonquin Provincial Park beaver, they are now supplying data on the states of beaver populations in most of the forest Districts and have been used to study the effects of protection and transplanting of beaver in the Hudson Bay Lowlands. Although the methods are undergoing continual modification to improve their accuracy, they are at the present time, the best possible means of producing estimates of numbers and of providing the background data for research on mortality factors. At the request of the Quebec provincial government, a Department employee, using our census methods assisted in an investigation of beaver declines in the Ruperts House-Eastmain regions of Quebec in the autumn of 1964.

As in previous years, research on upland game and waterfowl was limited to grouse, Canada geese and snow geese. Plans, however, were formulated for major increases in this field of research in future years because of the great importance of upland game birds and waterfowl to the hunters of southern and central Ontario and the growing problems of the effects of pesticides on wildlife in agricultural areas.



The influence of range quality on ruffed grouse was assessed through the detailed autopsy of hundreds of birds collected throughout Ontario at all seasons of the year by staff of the Fish and Wildlife Branch. As part of this research, studies of grouse nutrition were begun in co-operation with the Ontario Veterinary College. Our present hypotheses are that survival of grouse broods may be greatly improved through range improvement (clearing and fertilizing plots in mature forests), and hunter success can be increased by attracting grouse to clearings that have been planted with food-producing trees and shrubs. Preliminary field work is now underway on these programmes.

Experience with research programmes on nesting geese in the Hudson Bay Lowlands of Ontario resulted in a Department biologist undertaking an aerial survey of Ross' goose populations in the Perry River basin of the Northwest Territories. The project, partially supported by the Canadian Wildlife Service, provided an opportunity for the biologist to compare summer range and nesting locations of Arctic populations to northern Ontario areas which are producing thousands of broods of Canada and snow geese annually. It also gave a measure of Ross' goose production in 1964.

The collection of data from thousands of autopsies provided the background material for a "Manual of Common Diseases, Parasites and Anomalies of Wildlife in Ontario". This publication had the primary objectives of assisting field staff in the identification of important wildlife diseases and parasites and of providing a means of obtaining current information about their distributions and incidences. The manual is the first of its kind in North America, and to the best of our knowledge in the world, and it has gained widespread acceptance by universities, game departments and related agencies.

Research on the fox-rabies programme in southwestern Ontario has been plagued by many problems, not the least of which is the relative scarcity of foxes in many areas. Progress was made in important techniques associated with the research. The presence or absence of sex chromatin in the somatic cells of animals has been studied by many biologists for several years. However, identification of this chromatin was not possible in preserved tissues until refinement in cell-staining techniques were achieved by the biologist in charge of the rabies research. It is now possible to identify the sex of most rabid foxes from heads or other preserved tissues, an important step in understanding the methods of transmission of rabies in the various age and sex components of a fox population. Improvements were also made in radio receivers and the transmitters used to tag animals for ecological studies. The biologist in charge was invited to take part in a symposium on radio-telemetry held in conjunction with the 30th North American Wildlife Conference.

Research on moose populations in northwestern Ontario was continued, in an effort to understand the effects of hunting on productivity and the maintenance of optimum numbers. Comparisons of the ages of moose taken from accessible and relatively inaccessible areas showed significantly older classes in the latter locations. Although there may be some selection for trophy animals by "fly-in" hunters, there is probably a real difference between the age structures of populations which are lightly-hunted vs. those which are heavily-hunted. Differences in productivity may be expected between these populations, and these may be of sufficient importance to require variations in management.

Research on white-tailed deer continued to relate the status of populations with range quality, hunting pressure, winter weather, predators and other factors which affect them. Predictions of gradual recovery of deer numbers in central Ontario, following the severe winters of 1958-59-60, were borne out and confirmed the value of the snow-stations operated throughout the province. Data from these provide measures of the severity of winter conditions, as they affect deer survival.

The major advance in woodland caribou research involved the co-operation of a graduate student and staff at the Ontario Agricultural College. A complete, detailed cover-type map of the Patricia Districts north of latitude 54° is now being produced to relate caribou distribution and movements to food and shelter. The map will also be useful for other wildlife research and renewable resources surveys.

The Algonquin Provincial Park project, a part of the predator research programme, was completed in the autumn of 1964. Eighty-one wolves were trapped from the south-west quarter of the Park to measure the effect on the population of five years of protection. Comparison with the age structure of wolf populations elsewhere in Ontario, where there is a continual drain from trapping and hunting, showed that protection decreases the production or survival of young animals. Essentially, the protected population showed evidence that some mechanism or mechanisms limit total numbers. Food was not considered to be an important factor since there is an abundance of deer, beaver and other food supplies in the Park. Tentative conclusions are that behavioral or physiological factors are responsible for limiting population increases.

Application of research results and the experience gained in trapping programmes now form a major part of the predator research and management programme. Additional predator control officers were trained during the trapping programme in Algonquin Provincial Park. The thorough investigations of complaints of predation and the intensive control techniques used by predator control officers are now eliminating most of the problems of predation on livestock throughout the province.

## FISHERIES RESEARCH

The fisheries research programme has been developed to obtain the new facts and to develop the new techniques necessary to the complex job of management of both sport and commercial fisheries in Ontario. Constant attention is given to the task of selecting, from the many problems suggested, those which, when solved, will provide the greatest advantage to management throughout the Province, rather than locally. Selection of research projects is possible only through a close working relationship between management and research staff.

During 1964, a new research programme was launched with the object of developing a practical classification system for Ontario's lakes, based on their potential for fish production. Such a system, it is expected, will provide a yardstick against which biologists may measure the current production level of any lake to determine whether it is less than that which is to be expected over a long period of time. This research programme should be of value to both commercial and sport fish research and to management.

Progress of research in all established units was considered satisfactory, in view of present staff and facilities. Planned additions to staff and facilities are necessary so that highly trained research personnel may be used most efficiently. Competition from other research agencies and universities is becoming an increasingly serious problem in maintaining and further developing the programme.

## Great Lakes Fisheries

### LAKE ONTARIO

The whitefish fishery in Lake Ontario continued its sharp downward trend in 1964. Very few young fish were taken, either by commercial fishermen or by experimental fishing gear. On the basis of age determinations from samples avail-



able we must reluctantly predict even poorer whitefish fishing for 1965, the 1965 year class apparently having been a poor one. A few years ago, when it was learned the exploitation rate by the fishery was unusually high, restrictions were recommended and adopted. It is now apparent that other factors, probably environmental changes as described in the section on Limnology, have a greater influence on the whitefish than does exploitation by the commercial fishermen.

The lake trout research project, in co-operation with New York State, entered its final stage with the last large planting of 100,000 marked yearlings obtained through the Great Lakes Fishery Commission from Charlevoix, Michigan. The transfer of the fish by air in plastic bags, a technique developed in 1963, was successful, and the planting in the Charity Shoal area of the lake was completed without mishap. The large plantings will be followed carefully to see whether a successful spawning will result in five years, or failing this objective, it is hoped the causes of failure, sea lamprey or otherwise, can be identified with certainty.

The fishery for eels has been a small but stable industry in Lake Ontario for many years. In recent years, coincident with the declining numbers of other commercial species, it has assumed a greater importance and has been expanded. Concern about the effect of the barriers to elver migration presented by installations of the St. Lawrence seaway has led to a small study of this species. The objective is to determine the effect, if any, of the seaway on the eel population, and to devise a technique to maintain the supply of elvers from the Atlantic Ocean if this appears necessary.

The research vessel "Namaycush", fitted for trawling, carried out our first brief survey of the entire lake in 1964. The results of this, and of co-operative work by other agencies shows that the open lake is not polluted, is rich chemically and in fish food organisms, but contains very few fish.

The Kokanee programme is covered in detail elsewhere in this report. In Lake Ontario it is now apparent that natural spawning facilities may be limited, but the richness of the open lake waters suggests that growth of the young planted fish might be excellent.

## LAKE ERIE

The walleye fishery in the western basin of Lake Erie remained at a very low level, comparable to the levels prevailing in the 1930's and early 1940's. The 1962 year class, which had been considered as comparable in size to that of 1959, and which was expected to boost the fishery in the spring of 1964, failed to meet expectations. Samples from experimental and commercial gear indicate that the 1963 year class is about as numerous as was the 1962 year class, and consequently no improvement in the fishery for 1965 can be predicted.

In Lake Erie the environment and the fish populations are changing rapidly, and the fishing industry is widely spread. Under these circumstances, it has proven difficult to adequately sample the fish caught so that predictions to the industry of what to expect next year can be provided. Such predictions are important to management and to the industry and longer range predictions are desirable. In the hope of providing such predictions cheaply, research is proceeding on the development of index stations. It is hoped that by fishing certain gears, at selected stations once or twice a year, a reliable measure of the relative abundance of young important species can be achieved. This, in time, should allow long range predictions of fishing conditions, provided that year class strengths are established at an early age, as we believe them to be.

Studies of the factors, e.g. temperature and oxygen, etc., influencing the

distribution and/or the spawning success of smelt were continued during 1964. This work, nearing completion, is of assistance in predicting where, in the lake, smelt can be expected to concentrate in numbers sufficient for fishing operations. Such areas are expected to change with the continuing "enrichment" of the waters of Lake Erie. No progress was made this year on the proposed study of the problem of alternating strong and weak year classes of smelt. Cannibalism by yearlings on young-of-the-year is suspected, but the extreme scarcity of yearlings (1963 year class) in 1964 made it difficult to obtain specimens for study. This project was delayed until 1965 when yearlings from the 1964 year class are expected to be abundant.

## LAKE HURON

The several separate whitefish populations of Lake Huron, Georgian Bay, North Channel and South Bay were sampled as in the past. This sampling programme and subsequent age determinations from scale samples, allows determination of the relative strengths of year classes of whitefish produced in various areas, and is an essential part of our search for the causes of fluctuations in whitefish abundance. These samples also provide the basic for annual predictions for management and for the industry of the quality of whitefish fishing expected next year. In 1964 a study of whitefish during this first year of life was initiated. It is now believed that the strength of a year class may be fixed either at spawning time or during their first year after hatching. The problem of locating and catching these very small, almost transparent young whitefish is difficult to solve. A special plankton-type net for this purpose was developed and tested successfully during 1964.

The exploratory gill-net fishing of Georgian Bay ended in 1964 and the crew and gear moved to the North Channel. Preliminary analysis of the catches, suggested the possibility of catching good numbers of marketable chubs in some areas without excessive nuisance smelt and without catching young whitefish. An experimental chub fishery was recommended.

A major study of whitefish in Southern Georgian Bay was concluded in 1964, and a report is to be published in 1965. The research concludes that this population of whitefish is now exploited as heavily as it should be. The effect of sea lamprey control on this and other whitefish populations should be watched very closely. Populations are expected to improve when predation is reduced, and new kinds of control on the fisheries may be justified.

The survival, growth and distribution of planted, unselected splake were further documented in the fisheries of northern Lake Huron and of South Bay. Plans are being laid for the large-scale introduction of selected splake as soon as these become available.

The section on Kokanee, elsewhere in this report, covers this "exotic" species in some detail. There was no problem in selecting apparently suitable stream and shoal planting and future spawning sites in various parts of Georgian Bay and South Bay. A total of 1,750,000 eggs or "swim-up" fry were planted in Lake Huron waters in the first of a series of four annual plantings.

## LAKE SUPERIOR

The research programme on Lake Superior, under the terms of the Federal-Provincial Agreement for Ontario Fisheries, is a federal government responsibility.

This agreement is currently being considered for revision, in view of the progress of the experiment in sea lamprey control.

Principal research programmes are: (1) to attempt to control the sea lamprey and (2) to assess the lake trout populations of Lake Superior.

The sea lamprey control experiment has proceeded on schedule, and the second round of treatment with the larvicide T.F.M. of all lamprey producing streams entering the lake was completed in 1964. The effectiveness of this second treatment in reducing the lamprey population beyond its present level, awaits assessment in 1965 and 1966. Plans are being made for the extension of the control programme to Lake Huron.

The lake trout population, both native and planted, continues to respond well to the level of sea lamprey control achieved in the first round of treatments. Some mid-lake populations which escaped full predation by sea lampreys have recovered without the assistance of plantings to what are considered pre-lamprey status. A limited commercial fishery has been recommended for these populations. The in-shore stocks, which were decimated by predation, have been recovering well with the aid in local areas of large scale plantings of lake trout yearlings. These stocks have not yet reached a condition where a fishery can be recommended. In 1964, widespread evidence of a few mature trout in spawning condition was noted. This is the first sign in many years of natural reproduction in these in-shore areas.

## Introduction of Kokanee (land-locked salmon) to the Great Lakes

The depressed state of the fisheries, both commercial and sport, throughout the Great Lakes, has been a cause of major concern to research and management fisheries people for a number of years. In Lake Erie new species have become important and have maintained the industry, though at a different economic level. In Lake Superior, the sea lamprey control experiment offers some grounds for optimism that the former fishery may be recovered. In Lakes Huron and Ontario, immediate prospects for improvement are dim. A number of new species have invaded the Great Lakes, e.g. sea lamprey, smelt, alewife, white perch, perhaps to the detriment of the environment for traditional species. Few of these have been useful. Biologists have given much thought to the consequences of deliberately introducing new species.

The Research Branch, after lengthy study, recommended in 1964 the introduction of Kokanee, a land-locked variety of sockeye salmon, to Lakes Huron and Ontario. The objective of the introduction was seen as the establishment of a new game and commercial species. No detrimental consequences to present species or to the re-establishment of formerly important species were foreseen.

Subsequently, during 1964, some 1½ million eggs from a stream-spawning variety of Kokanee were obtained from British Columbia and another 1½ million eggs from shore spawning Kokanee were obtained from the states of Montana, Colorado and Washington. These have been planted, half as eyed-eggs and half as "swim-up" fry, at selected sites in Lakes Huron and Ontario. Four annual plantings are planned as the initial experiment to establish the species. Follow-up studies to determine survival, growth, distribution and spawning success will be developed during the next few years.



# Sport Fisheries

## HARKNESS LABORATORY

The variety and long-term continuity of the fisheries research programme, centered on Lake Opeongo in Algonquin Provincial Park, has resulted not only in many practical management techniques, but also in the accumulation of an excellent background knowledge of a large number of Park lakes and fishes. With this knowledge available, it has been possible to initiate active research programmes very quickly because it has been unnecessary to search for the experimental conditions required. Thus, our programme dealing with lake trout, smallmouth bass and brook trout have been based, initially at least, at the Harkness Laboratory. (A history of the Harkness Laboratory, written by N. V. Martin in 1964 will be issued in 1965.)

## CREEL CENSUS

The unspectacular, routine, and frequently boring task of conducting a thorough creel census on Lake Opeongo and some of the neighboring lakes was continued in 1964, as it has been for more than 25 years. This continuous record is envied by almost every other research organization on the continent. Many organizations in fisheries, both research and management, undertake creel census work for periods ranging from a week or two to several years, in order to measure, in terms of fish to the angler, the results of a specific test. These are good, but they would be better and more reliable if the specific tests were imposed on a population of fish whose history is known. What is lacking in these studies is a reasonable knowledge of what would have taken place in that lake, in that year, in the absence of the test. This is the unspectacular but fundamental assist that we have slowly accumulated in Lake Opeongo. About 20 consecutive year classes of lake trout have now been measured as they made their accumulating contributions to the angling fishery. We may not have recorded all the range of natural variation that may occur, but feel confident that we have measured a large portion of it. The Branch is now in a position to compare the fishery in a test year or years, with the broad range of fishing conditions which are normal. It is now better able to decide what part of the results are due to an experiment, and what part is likely to be due to natural variation. A background of data provides the basis for reliable experiments in population manipulation. If the research station at Lake Opeongo were to be closed, the 35 years of accumulated data, essential to rapid progress in any research programme would be lost, and it would be necessary to begin again.

The Opeongo creel census has had many values as by-products. It has provided the yardstick to which we compared what happened under the alternate closure scheme of management, and now the two-year open—one-year closed schedule for adjacent lake trout waters. It has provided our assessment of past experimental stockings, which were failures, and will provide the assessment of the "hard water vs. soft water" source lake trout stockings. It has provided samples in the plankton vs. fish feeding lake trout study, and in almost every other lake trout study that has been undertaken. It has provided similar data for bass and some for splake and brook trout. Migration, fecundity, homing, feeding, parasitology and other studies have been to a large measure, supported by the creel census and by the fish, and pieces of fish it makes available. Creel census probably represents, in an unspectacular way, the highest return for money spent.

Creel census, though in itself a simple routine, must be carefully watched



from year to year, if comparable coverage of the fishery is to be maintained. If comparable coverage proves impossible, then at least the degree to which coverage has changed must be measured accurately and recorded. In Lake Opeongo, the fishery has been changing during the past few years and we are facing the problem of measuring the change. Guides, who have provided information traditionally for so many years, are now used less, and many anglers are campers whose experience in fishing is casual and whose fishing hours are mixed with boating hours, cannot be counted upon to supply reliable data.

Because of the background of knowledge about Lake Opeongo and neighbouring waters in the Park, a number of our own research units and other research agencies used facilities of the laboratory in 1964. These included: Lake Trout unit, Brook Trout unit, Smallmouth Bass unit, Limnology unit, Parasitology unit, Inventory (Productivity) unit, Selective Breeding (Splake) unit, Ontario Research Foundation, University of Toronto, University of British Columbia, University of Texas.

## LAKE TROUT

The success of plantings of lake trout from normal hatchery stocks in Lake Opeongo and we suspect, in similar lakes, has been nil. Any of the traditional, additional protection techniques used to improve survival have also failed. Water quality is being tested to see whether this is the factor responsible for failure in Lake Opeongo in contrast to success in other waters; e.g. South Bay and Lake Manitou. Lake trout eggs, taken from trout inhabiting both hard water and soft water lakes, have been hatched and reared in both hard water and soft water hatcheries and are being planted in Lake Opeongo. Each lot of fish has been kept separate and has been marked differently. The first such planting was made in Opeongo in 1963 and the second planting, consisting of a total of 59,000 yearlings was made in May of 1964. The creel census, in the coming five or six years will provide the assessment of survival of the various lots.

The study of the importance, in terms of lake trout management, of the plankton feeding versus the fish feeding habit in lake trout was continued in 1964. These feeding habits are now known to affect the rate of growth, the size and age at maturity, the general condition (weight per unit length), and the number of eggs per pound of female. There are also consequent differences in the kinds of angling which are produced, in the year class fluctuations and in the age and size at both maturity and at vulnerability to the angler. Such differences are important to management and are being measured precisely.

## BROOK TROUT

Studies of natural brook trout populations are under way to determine, as has been done for lake trout, the natural variation in year class strength which occurs in such typical lakes as Redrock and Dickson. Yields to the angler under different controlled fishing intensities is being measured. It is interesting to note that in Redrock Lake in 1964 when the total catch was 530 trout, 50% of these were caught in the first four days of the angling season. The survival of hatchery reared and planted brook trout in such native brook trout lakes has been very low. Predation by native lake trout and brook trout is now recognized as an important factor in the mortality of planted fish.

Fifteen lakes, representing a cross section of brook trout lakes in northern Ontario, were selected for stocking rate studies shortly after the establishment of this research unit. The first experimental plantings were made in 1962, and

replicate plantings have been made since. The survival of hatchery plantings have been reported in Section Report (Fisheries) #51 and indicate a low, but the best, survival in lakes where minnows are the only other species present. Poorest survival is evident when suckers are also found in the lake.

Studies of the relationship between white suckers and brook trout have been started because of the relationship reported above. Other projects include an attempt to develop a simple technique for providing artificial spawning beds to allow natural reproduction where these are lacking, as is the case in a large number of brook trout producing waters, and a study of the usefulness of fish toxicants as a tool of brook trout management.

## SMALLMOUTH BASS

A relationship has been discovered between average summer temperatures and bass year class strength. On the basis of air temperatures at Lake Opeongo to be measured in the summer of 1965, the quality of angling for bass in the years 1968 and 1969 can be predicted. Such predictions have been made successfully for South Bay and Lake Opeongo. Further research is being undertaken to learn how this relationship works, and why it applies only to the northern and not to the southern waters of the province.

Tests are also under way to assess the survival of planted, hatchery-reared bass fingerlings.

## WALLEYE

Most of the 1964 field season was spent in exploring a number of waters to locate the best site for the long-range ecological study of walleyes, which is considered the best approach to improved management of this species. Underwater observations will form an integral part of this programme. The complex of lakes (Baptiste, Elephant, Benoir) and the York River was chosen, and a headquarters was established.

The principal observation made in this initial year of field work was that walleyes lie in contact with the substrate, are generally in less than 10 feet of water, on muddy and weedy bottoms. No walleyes were seen in or below the thermocline.

Four years' data covering the period 1955-1958 inclusive, are now being compiled. Walleyes spawning in the Nipigon River show an annual migration pattern, the bulk of the population moving from Lake Superior again in the fall months. On the basis of tagging studies, the walleyes in Nipigon Bay are quite discrete from the Black Bay population. Static estimates of the adult walleye population have been made, using a modification of the Peterson estimate.

The data on the Nipigon Bay walleyes is especially valuable, as investigations this spring indicate a serious decline in the abundance of this species and possibly the complete eradication of a spawning stock.

The bibliographic compilation started in 1963, is continuing, and about 400 separates have been reviewed and catalogued by author, species and subject matter.

## LIMNOLOGY

Staff of this research unit are engaged in three activities: (1) co-ordinating the collection of physical, chemical and plankton data undertaken by several of our units in connection with various fisheries research projects; (2) acting in a

liaison capacity for the Department, with the Great Lakes Institute, University of Toronto, which is supported with funds by the Department for its hydrographic work on the Great Lakes; (3) conducting specific limnological research programmes.

During 1964, a study of the rate of aging in the Bay of Quinte demonstrated the rapid rate at which this water environment is changing. Such changes are of major significance to fisheries and to recreation.

## PARASITOLOGY

Studies of the parasites of Ontario fishes continued in 1964, with collections from Lakes Ontario, Erie, Huron, Opeongo and Lake of the Woods. Occasional specimens were also submitted from many other waters throughout the province by Departmental staff and by anglers. The number of "firsts" in this work—new host species, new parasites, and new records—continues to impress us with our ignorance of this subject. Much has yet to be learned about the kinds of parasites in important fish species before assessing their effects on fish populations and possibly to developing techniques for reducing the levels of parasitization. It is possible, that some of the parasites identified are capable of causing fish mortalities of serious economic proportions in waters as large as the Great Lakes. Some parasites, if obvious to the naked eye, reduce the marketability of commercial species.

## SELECTIVE BREEDING

The objective of the selective breeding programme has been to produce a stable, reproductive strain of the hybrid, brook trout-lake trout, which will mature at age three or less, and have the ability of the lake trout to inhabit deep water. Initially, it was necessary to assume that these characters were heritable. We now have proof that this is the case, and are quite certain of being able to produce an acceptably selected hybrid in three or four generations. Progress in the project has been seriously retarded during recent years by inadequate space for the many small lots of selected fish, and for rearing of the selected stock to maturity. The crowding not only results in losses from disease but greatly reduces growth and egg production. When the planned facilities are available we expect to quickly reach our objective and to provide large numbers of selected stock to management for subsequent planting in Lake Huron. The Great Lakes Fisheries Commission has endorsed the rehabilitation of Lake Huron with splake rather than lake trout. In the event that sea lamprey control is not possible or is economically impractical, splake will be in even greater demand because of their expected ability to maintain themselves in the face of a lamprey population.

## PRODUCTIVITY

Authority and funds were granted in 1964 to establish a research unit to conduct studies leading to the development of a practical index or indices that might be useful in predicting the fish production of lakes.

Looking forward to this programme a number of years ago, a series of lakes across the province was selected for appropriate sampling. Samples and measurements were taken routinely by District staffs and by Fish and Wildlife and Research head office staffs. Analysis of these data provided the basis of publishing in 1964, Section Report (Fisheries) #48 entitled "Chemical characteristics of Ontario lakes with reference to a method for estimating fish production." Two journal papers arising out of this work have also been accepted for publication.



## HEADQUARTERS

Headquarters staff performed administrative duties and ensured co-ordination between research units of the Fisheries Section and between the Section and other agencies in Ontario and abroad. This function greatly increases the effective amount of research applied to fisheries in Ontario beyond that amount actually undertaken by the Province. Staff again participated in the programme of the Great Lakes Fisheries Commission, particularly the sea lamprey control experiment.

## FORESTRY RESEARCH

The forest research programme is integrated between five units with headquarters at the southern Research Station, Maple, and six units located in the major forest regions of the Province. The programme is described under Site Research; Tree Breeding; Nursery and Plantation Research; Quality Wood Studies; White Pine Blister Rust; Economics; and Silviculture Research.

### Site Research

The three phases of site research are (i) Regional Site Research, (ii) Factorial Site Research, and (iii) Land Productivity Research. The objective and scope of the first two phases were introduced in the Minister's report of 1963-1964 and previously.

#### REGIONAL SITE RESEARCH

The recognition, classification and mapping of land units on an area of 7,000 square miles north of Lake Superior constituted this year's programme for one member of the staff. Glacial events which determined the distribution of soil materials were studied, and the distribution pattern of various soil materials was established. Preliminary estimate was made of timber use-capability of various land classes.

In this same region, a study of forest-site relationships on a reference area was concluded and the results were reported. This study shows that the kind and depth of soil material and soil moisture conditions greatly influence the composition of the forest and the growth and yield of commercial tree species.

During the fiscal year, another staff member investigated and mapped the glacial landforms of an area of approximately 37,000 square miles in Sudbury and Algoma Districts.

A third staff member studied the distribution of parent soil materials in part of Pembroke District in relation to geologic events, and a manuscript is being prepared for publication. Field work is almost finalized for a similar study in Tweed and Lindsay Districts.

A report by two staff members, on the landscape units of the 11 counties of Eastern Ontario, is nearing completion. This includes the whole of Kemptville District and parts of Tweed and Pembroke Districts. It is part of the Eastern Ontario Study Project carried on under the Agricultural Rehabilitation and Development Act (A.R.D.A.).

#### FACTORIAL SITE RESEARCH

Two workers have continued in this field, studying soil nutrients and soil moisture factors.



*Soil Nutrient Research.* The release of nutrients from sandy materials is being studied in a series of laboratory experiments. A range of conditions and various materials are used. The immediate aim is to develop a technique suitable for the characterization of sandy materials which would be of great value for the regional site research.

Numerous soil samples were analyzed for regional site research. New analytical techniques were selected and new laboratory layouts were developed to improve the accuracy and efficiency of analyses.

*Soil Moisture Research.* The greatest part of the soil moisture programme during this period was concerned with moisture deficit-tree growth relations.

Experimental study plots within a 27-year-old red pine plantation on a dry sand site in Essa Township were thinned to varying degrees (immediately prior to the 1964 growing season). Measurements of current soil moisture and current diameter growth were made at frequent intervals throughout the growing season. Half of the plots were irrigated to maintain near-optimum moisture conditions. The newly-acquired nuclear equipment, used for all moisture measurements, performed in a highly satisfactory manner. The study is being continued, but it is premature at this time to forecast quantitative relationships between moisture deficit and growth.

A new technique was developed for using a polyethylene surface shield with the neutron depth-probe for the determination of moisture contents within the top-most surface soil layer. This has been written and submitted for journal publication.

A manuscript, reporting earlier studies on the equipotential zone above water tables, was prepared with a view to journal publication.

The soil moisture study in Essa Township and the determination of the water balance of the site regions of Ontario, were accepted as projects for the International Hydrologic Decade.

## LAND PRODUCTIVITY RESEARCH

The objective of land productivity research is to rate the potential of physiographic land classes for various uses, such as the production of farm, timber and wildlife crops and for recreational activities. This is done by observing the production on the same land class under various stages of plant succession, cultural practices and soil conditions. From the various levels of production on the same land class a value is selected which represents the potential of that specific land class. This rating, known as land-use capability, is one type of site evaluation.

The most intensive studies of site evaluation have been conducted in the development of a system of rating the land for the production of wood. During this fiscal year, an amplified classification has been applied to the landscape units of the 11 eastern counties of Ontario which comprise the pilot area studied under A.R.D.A.

One member of the staff is working in co-operation with Professor D. Love of the Faculty of Forestry, to obtain detailed production data with regard to yields and costs of red pine production on the common sites planted to that species. A co-operative report on red pine is being prepared. A similar study of maple and other hardwoods has been under way in the unit for some time. It is planned to extend co-operative effort this year to studies of hardwood and spruce.

The physiographic framework for the evaluation of land for wildlife production and for recreational use has also been developed. A report on the principles and methods of evaluating land for wildlife production has been prepared by the leader of the unit, working with two wildlife biologists. Similar studies in recre-

ational use are being planned in co-operation with the Chief of Parks Branch. Such detailed use-capability studies are required at the resource management level.

Closely integrated with the detailed site evaluation is the multiple-use land classification required at the level of land-use planning. For this, a broad scheme based on generalizations of the detailed classes has been developed for the five types of resource development, dependent upon biological production.

Owing to the complexity of factors which determine the adjustments to be made in land use, the evaluation of the land classes must be considered in four stages which increase in complexity with the increase in factors considered:

*Present production.*

*Potential productivity of the land.*

*Management practice in relation to potential and present condition.*

*Economic and social factors.*

During the present year, work was commenced on applying this system of multiple land-use classifications to the landscape units of the 11 eastern counties of Ontario. It is expected this will be completed this coming year.

## MEETINGS ATTENDED

The unit was represented at the 1964 meeting of the Northeastern Forest Soils Conference in Maine. A staff member is actively participating in this group's Site Evaluation Committee.

The leader of the unit was the official delegate of the Department at the National Forest Land Inventory Technical Planning Meeting. At this meeting, the forest land classification which has been developed in Ontario was accepted as the basis for a national system being sponsored by Land Inventory Programme carried on under A.R.D.A.

## Forest Tree Breeding

Breeding projects continued with white pines, aspen poplars, hard pines and spruces. The first controlled pollinations with black spruce, white spruce and several exotic spruces were made in the spring of 1964. The purpose of these pollinations was to determine the genetic variability of the native spruce species, the genetic relationship of native and exotic species and the value of certain spruce hybrids.

### WHITE PINE

Resistance to blister rust and weevil, and satisfactory growth rate and growth form continue to be the main objectives of this project. In 1964, combining ability tests were continued, to determine which of the many selected rust-resistant trees transmit resistance to their progeny. Results from these tests will indicate which trees should be used for the mass production of rust-resistant seed in seed orchards. Interspecific crossing between promising rust- and weevil-resistant exotic and native white pine was continued. Several promising first and second generation hybrids are presently being tested.

### ASPEN POPLARS

The main aims of this project are the production of aspen-like hybrids, suitable for growing in southern Ontario, having good growth rate and growth form, good wood and ease of vegetative propagation. The problem of developing

as aspen hybrid that roots well from stem cuttings has largely been solved. Many hybrids with 75-90% rooting ability have been produced. The most promising of the crosses are being repeated and promising individuals are being tested in respect to other valuable attributes.

## HARD PINES

The objectives of the hard pine breeding project are to produce a red pine or red pine-like tree resistant to the pine shoot moth and of satisfactory growth rate and growth form. Selection for a shoot moth-resistant red pine has been unsuccessful because of the genetic uniformity of this species. In the spring of 1963, an intensive effort was made to cross red pine with other closely related species. Seeds from these crosses matured in the fall of 1964 and have been sown in a greenhouse. If some of the 3,000-4,000 seedlings produced are hybrids, they will play an important role in introducing genetic variability into red pine.

## Reforestation Research

Research in all aspects of artificial regeneration, is aimed at the technical and scientific improvement of the reforestation programme. Studies are conducted in the greenhouse, in nurseries and in planting areas.

## NURSERY AND PLANTING STUDIES

In certain studies the effects of treatments applied in the nursery must be examined for several years after outplanting. One large project, dealing with correcting the acidity of nursery soils, has required a test-planting programme lasting several years. Results indicate that artificial acidification can produce important improvements in the quality of planting stock. Another study, relating to mulching practices of the nurseries, has shown the use of hardwood sawdust as a mulch, offers immediate benefits in more efficient use of seed and in reduction of maintenance costs.

This year, a study was started to examine the effects of the nursery fertilization programme on the quality of the stock as measured in terms of planting success, in which both survival and growth are considered. Variations in the fertilizer programme were applied to experimental areas in several nurseries. Selected stock from these areas will be planted and the results observed carefully.

Studies have continued in several areas across the province on the comparisons of seedlings with transplants for general planting. Also, aspects of the effects of different planting methods on the survival and growth of several species have been examined.

Work was also started this year on the effects of cultivation on the improvement of growth in plantations. This will be a long-term study, but the practice has been economically advantageous in other countries.

## FROST DAMAGE STUDIES

Frosts have caused much loss and damage in the tree planting programme. Research has been directed to the identification of frost damage in wood, ways of measuring frost damage, and investigations of frost hardiness differences between and within species.



# Quality Wood Studies

The Ontario Research Foundation obtains an annual grant from the Ontario Government to carry out a quality wood programme. This programme is divided into two spheres of activity: anatomical studies (Dr. L. J. Laddell), and studies of wood chemistry (Dr. G. H. S. Thomas). The function of the Quality Wood Unit is to ensure that the programme carried out by the Ontario Research Foundation is directed to the aims of the steering committee and to relate the findings to field application, thus providing an improved wood supply for industry. In addition, trials are run to assess the natural variation found in specific wood properties such as wood density and spiral grain.

## WOOD CHEMISTRY

Most recent work undertaken in the pulping area has been a study of the effect of compression wood<sup>1</sup> in black spruce on yield and paper properties. The present investigation has dealt with normal wood, 100% compression wood, and various percentages of compression wood (5%-50%) mixed with normal wood of black spruce.

There is little doubt from the results, that compression wood is not a desirable raw material from the viewpoint of the pulp and paper industry. Results of the chemical analyses show clearly that the main chemical distinctions between compression wood and normal wood are that the compression wood has a substantially higher lignin content and lower cellulose content than comparable normal wood. Under identical pulping conditions (in this instance sodium bisulphite solution), the 100% compression wood pulps were of much lower yield with a higher lignin content than those pulps produced from normal wood. Also, these pulps produced from 100% compression wood were lower in burst, tear, and tensile strength properties.

However, these results refer to solid compression wood and such material is never likely to form the bulk of the chips used for a commercial cook. The amounts of compression wood normally encountered in black spruce, that is from 5% to 10%, can be pulped quite adequately by the same cooking conditions used for normal wood, and although the yield of pulp would be reduced, pulp strength properties are likely to be unaffected.

## WOOD FIBRES

During the latter part of 1964, work centred on examination of the internal morphology of black spruce and the development and testing of methods. Work was done complementing Dr. G. H. S. Thomas' studies of the behaviour of compression wood during pulping and the making of paper, and many measurements were made in an effort to elucidate some of the patterns of variation in normal trees. These latter studies, included an examination of the variation with height within the trees of certain features in the one year ring, and variation outward from the pith. In these studies, which are continuing, a number of features of possible significance to pulp and paper quality were examined.

A report has been made on the methods basic to the investigation of internal morphology and describes the work carried out so far on compression wood. A second report, covering some of the patterns of variation in normal wood, is forthcoming.

<sup>1</sup>*Compression wood is a fibre condition of conifers caused by stress. It develops on the underside of leaning tree stems and on the leeward side of stems exposed to wind pressure.*



## RESEARCH BRANCH

A study of wood density variation in black spruce was started in 1964. The aim was to obtain a direct measure of density variation within the tree stem; to assess the effects on total stem density of the amount of compression wood and branch wood and to determine micro-sampling techniques applicable to standing trees which will assess total stem wood density.

A random sample of 20 trees was selected in Challies Township, Cochrane District. Fourteen trees were subdivided into one-inch thick discs, and six trees were sawn into boards. The specific gravity of samples was determined and related to true averages. Preliminary analysis indicate a highly significant correlation between the average specific gravity for the whole bole. The determination of sub-sample locations (perhaps increment core samples), within the basal 10% section of the bole will enable field assessment of the natural variations found for this property. Subsequent measurements will determine the variation in compression wood within the trees and provide factors by which the density of samples can be modified to provide a relationship with the yield of pulp.

## Report on Blister Rust Investigations

In 1964, blister rust work was carried out in Lindsay, Fort Frances, Sioux Lookout and Kenora Districts.

In Lindsay, one periodic examination (the fourth) under the reconnaissance programme there, was made at Ludgate Falls. On the University of Toronto Forest at Dorset, blister rust control areas were examined for *Ribes* occurrence and for infection of white pine regeneration. Recommendations were made regarding instruction in blister rust control at the Forest Ranger School. The last remaining live trees in the graft-infection experiment were examined.

In the western Districts further reconnaissance surveys of infection of white pine and *Ribes* determined and elucidated disease conditions at the northern and western limits of distribution of pine. The occurrence of *Ribes* in relation to pedological features was studied. In selected areas white pine stocking, and infection in timber, natural regeneration and plantings, was investigated. Certain small areas in Fort Frances and Kenora were selected as being suitable for initial control projects.

Written statements were distributed to the Districts concerned.

## Forestry Economics Unit

During the 1964 fiscal year, the Forestry Economics Unit participated in two research projects. The first is the A R D A (Agricultural Rehabilitation and Development Act) project under the direction of Professor D. V. Love, University of Toronto. This project involves the study of the economics of intensive forestry in Southern Ontario and the comparison of returns from forestry with other land uses.

The second, a Research Branch project in the Southwestern Region, aims to establish eastern cottonwood and other fast-growing hardwoods. The economic study relates to a financial evaluation of these species.

## Silvicultural Research Units

Silvicultural research units have been established in administrative regions of the province to study characteristics of commercial tree species which affect growth and reproduction. The object is to develop economical cultural practices which will ensure maximum production of quality wood. Such knowledge is essential to the proper management of Ontario's forest resources. An outline of the work of the main projects for each regional unit follows.

### MID-WESTERN FOREST RESEARCH UNIT

In 1964, the regular programme of studies on the silvicultural characteristics of the main tree species of the region was continued although, as in 1963, the collection of new information through field work was minimized due to a reorganization of the programme. Field examinations were carried out on two high priority studies but the main emphasis for the year was placed on reducing the backlog of compilations, analyses and reporting necessary to finalize certain of the long term studies.

The research co-ordination programme was inactive although provision of forest library services was continued. No annual summary was published and there was no annual meeting.

*Natural Regeneration, Growth Studies and Silvicultural Treatments (White Spruce-Balsam Fir):* In 1960, a modified cutting system, which combined soil disturbance with the leaving of seed trees was established, to increase the white spruce regeneration over that which normally results from mechanical logging in the mixed-wood cover type. This year, the 50 residual stand study plots and the 1,000 regeneration quadrats on the 50-acre treatment area were re-examined.

The results confirm the findings from similar earlier trials and indicate that this combination of treatment can substantially increase white spruce, as well as other species for which there is parent stock. However, the degree of success is very dependent on the amount and type of ground disturbance. In this trial, mechanical logging in tree lengths provided inadequate coverage of the treated areas.

Growth studies and the effects of increasing competition will be continued.

*Trembling Aspen.* Trembling aspen regeneration occurs profusely on a wide range of cut-over conditions, particularly those harvested using mechanical equipment. In 1959, a major study was initiated to determine if the existing and future quality of the young stems could be forecast by some characteristic(s) in their physical appearance. Simple analysis techniques on the detailed descriptive information gathered on each of the aspen stems occurring on 840 mil-acre quadrats, failed to reveal any significant or useable relationships. In 1964, the 5,500 stems were re-examined and re-described as a preliminary step to an analysis by computer programming. Multiple regression and correlation analyses will be conducted on such features as present internal quality, age, years since cutting, original cover type, site type, present stand density, branching habits, foliage characteristics, presence of black spots and fungal fruiting bodies, bark colour, form, vigour and general appearance. This analysis is as yet incomplete.

### CENTRAL FOREST RESEARCH UNIT

The work of this unit consists of field and laboratory studies of problems of tree nutrition, particularly spruce, and studies of the productivity ecology and racial variation of red spruce. It also includes studies of tree nutrition in relation to forest disturbance. Work on smelter fume pollution in relation to forest soils and vege-

tation has been concluded for the present, although information on this subject is still being supplied to co-operators.

## PRODUCTIVITY ECOLOGY OF RED SPRUCE

Red spruce has characteristics which make it very useful in improving the productivity of derelict tolerant hardwood and mixed wood stands. This study is expected to elucidate the silvics and silviculture of this species and provide definitive information of growth potential for planting programmes.

The study is designed to measure growth and productivity of red spruce in pure and mixed stands on a complete range of physiographic sites across its range in Ontario. It is hoped to provide explanations of differences in spruce growth as related to nutrient uptake from forest soils. In addition, total productivity (dry weight production), specific gravity, regeneration and ground flora relationships are being investigated.

By using computer techniques, it is intended to construct a mathematical model not only for describing, explaining and predicting the foregoing relationships, but also in studying other spruce species and populations. Comparative measurements are already being made on white and black spruce when these species occur in association with red spruce.

Work is also proceeding on the racial variation in spruce in order to find the best ecological characteristics. The relationships of genetic variation on nutrition and growth in spruce are being investigated by measurement and analysis of different provenances and species on the same and different sites. Several species are being considered. Early indications are that natural or artificial hybrids between red and black spruce, while possibly possessing some hybrid vigour, are not nearly as desirable as the parent trees. The hybrids are exceedingly rough and limby.

A large-scale experimental underplanting has been established, and is being re-measured this year. Assistance to the Timber Branch on the establishment of seed production areas is continuing.

*Tree Nutrition, Forest Disturbance and Regeneration.* Studies are under way on the effects of prescribed burning and scarification on nutrient release in the soil and uptake of these nutrients on the growth of tree seedlings on different land types.

## NORTHERN FOREST RESEARCH UNIT

Black spruce, the principal source material of our pulp and paper industry, is the chief concern of research in this Region. There have been, over the years, numerous studies made by many investigators into the regeneration and rate of growth of the species, both of which have been unsatisfactory, particularly on lowland areas.

This unit has had two objectives. The first, to determine the cause of poor regeneration and find means of correcting it; the second, to ascertain the reasons for the slow growth of spruce and learn how the rate of growth can be accelerated.

We do not have the answers. Nevertheless, the past year has been one of accomplishment and it appears that methods of attaining our objectives on the lowland sites can soon be described.

Experimental work indicates that sphagnum moss is the major competitor to spruce both in its initial and later stages. We have found conclusive evidence of the growth of sphagnum on open areas, growth so prolific that it tends to swamp any spruce regeneration which may have originated there. It is assumed that this acceleration in growth of sphagnum is the reason our spruce cut-overs are not regenerating satisfactorily.



Explorations carried out into the rooting systems of several mature trees indicated that a similar sphagnum problem existed. As yet, not enough data has been collected. However, it seems sphagnum growth is killing off the rooting system of spruce on lowland sites. The poor growth of the spruce may result from the trees having to establish a new and higher rooting system to obtain the nutrients needed.

A study of sphagnum control has been approved and will be initiated this year. Experimental work to illustrate the role of different nutrients in the life of black spruce starts this spring, on stock planted last fall. Mass observations made last year have led to the establishment of carefully controlled experiments in group planting to see if, by this means, some of the cut-overs which have failed to regenerate can be successfully rehabilitated.

If these methods or their possible successors work, we can look not only to the maintenance of our present commercial stands, but to the expansion into fertile areas which now support a sub-commercial forest.

In the preparation of this work, a great deal of attention has been paid to studies of a similar nature being conducted in other countries of the northern hemisphere. Translations of botanical and forestry articles have been made from Russian, Finnish and Norwegian; three have been published as Information Papers. Articles by 50 authorities on organic sites have been reviewed, and the results of their work as applicable to Northern Ontario have been published as a Section Report. Another submission for a Section Report dealing with Ontario conditions, is ready for publication.

## SOUTH CENTRAL FOREST RESEARCH UNIT

The objective of this unit is to provide information for the management of the important commercial tree species that occur in South-Central Ontario; sugar maple, yellow birch, white and red pine. Work is being done on the problems of regeneration, growth and quality of these species.

*Sugar Maple Growth and Quality.* The developing shortage of high quality hardwood timber following extensive exploitation of yellow birch, has prompted the present programme of research on sugar maple growth and quality. The preponderance of this species in the hardwood forests of the region suggests that continuing supplies of hardwood in the next rotation must come from existing sugar maple stands.

In 1959 a study of factors that affect the production of high quality maple was commenced. This work was first carried out on small saplings, and more recent investigations include larger saplings, poles and sawlog sizes.

To date, the observations substantiate the concept of the relationship between growth (rapid and continuous) and quality wood production. The current work includes a study of trees wounded artificially.

A marking scheme, giving emphasis to stand improvement, maintenance of balanced stand structure and ease of application, is being tested with promising results.

*Red and White Pine and White Spruce.* The Ottawa Valley lumber industry is keyed to softwood production, mainly white and red pine. Because of this high preferential demand, a study of stand conversion from low grade hardwoods to pine was initiated in the Petawawa Management Unit in 1954. The performance of red pine, white pine and white spruce planted stock is being studied on three representative sites and under four periods of suppression from hardwoods prior to a release. The work to date, indicates a marked difference in survival and growth between species, site and suppression period.



*Trees in Tubes.* Since 1957 the Research Branch has been attempting to develop a fast, inexpensive method of reforestation which could be useful in extending the planting season (in summer, as well as spring and fall) and to provide stock on a few weeks notice for planting after wildfires.

After many small-scale trials and much mechanical innovation, by 1963 there was sufficient assurance of success to proceed with a development program for the quick production of large numbers of tree seedlings in small tubes, and planting techniques suitable for a large-scale experiment. The equipment was designed for field use in the immediate proximity of planting sites; a "self-contained" operation.

By the end of 1964 suitable prototypes of tools and equipment had been made to meet the requirements for the experimental planting in 1965 of about 120,000 tubed seedlings in the Chapleau District. Checks will be made on survival and growth in the fall of 1965 and the spring of 1966. Further expansion of this work is planned over the next five years.

## SOUTH WESTERN FOREST RESEARCH UNIT

The programme in 1964 of the South Western Regional forest research unit consisted of the following:

- Maple sap and syrup studies.

- Chemical control of the Dutch Elm disease.

- Chemical site preparation for hardwood planting.

- Chemical thinning.

- Chemical effect valuation on shrub control in fire guards.

- Asexual reproduction of high-quality silver maple phenotypes.

- Seasonal and periodic growth studies in hardwood and conifer stands.

*Maple Syrup.* About 600 sap samples, collected from silver maple, hard maple and red maple stands and from street plantings of Norway and Manitoba maple, were tested for their sugar content. This project is designed to determine the potentialities of five species and to explore the principal factors in maple syrup production. The study was carried out in co-operation with the Department of Agriculture of the Ontario Agricultural College and with the Vineland Experimental Station. Statistical correlation of sugar content of sap was made for hard and silver maple in relation to stand density, dominance and site conditions. The results are being prepared for publication.

*Chemical Control of Dutch Elm Disease.* A co-operative project with the Forest Pathology Laboratory and the Lake Huron District on the chemical control of Dutch Elm disease was initiated in the spring of 1964. The chemical 2, 3, 6-trichlorophenoxyacetic acid in water was applied as a basal bark spray to 500 American elms near Walkerton.

*Chemical Site Preparations.* Chemical site preparations for hardwood planting studies using Dybar to eradicate competitive vegetation were continued by testing its effects in two low quality aspen stands, in a dwarf willow swamp and in a cut-over elm-cottonwood swamp. The soil sterilant was applied in a 3, 5 and 7-foot grid at the rate of one and a half teaspoons per spot. Final results will be evaluated in the summer of 1965. Twenty-two shrub covered swamps in the South-western Region were selected in 1964, for chemical site preparation with Dybar in the summer of 1965 and for planting with silver maple and eastern cottonwood in the autumn of the same year.

*Chemical Thinning.* A silver maple stand which had been chemically thinned by light, medium and heavy application of 2,4,5-T ester in oil as a basal bark spray once, twice and three times to the same trees in the same growing season

and at yearly intervals for a period of three years was assessed. Results indicate that one heavy application or three medium applications in one growing season are almost 100% effective in eradicating the unwanted stems. Maximum kill takes up to two years after treatment.

*Chemical Shrub Control.* Chemical control of grasses and herbs two years after treatment in a fire-guard indicated that Urox, mixture of Radapon and 2,4-D amine, Telvar and Hyvar were still effective in controlling plant growth.

*Asexual Reproduction of Silver Maple.* The asexual reproduction studies of 20 high-quality silver maple phenotypes for lumber production were continued at Orono nursery. Most of the trees have now been successfully budded and will be layered in the summer of 1965. In addition, one high sugar producing silver maple was also budded at Orono nursery.

*Growth Studies.* Seasonal growth studies using dendrometer bands on silver maple, hard maple, American basswood, white ash and red pine were continued. The project is designed to correlate the growth of the aforementioned tree species with thinning, spacing, temperature, moisture and other site factors. In addition, five-year measurements were made in a second growth hardwood plot near Woodstock for the purpose of studying stand development.

## SOUTH EASTERN FOREST RESEARCH UNIT

The three main objectives of the South Eastern Research Unit are:

*To determine the effects of prescribed burning and its role in forest management in Ontario.*

*To learn the silvics of basswood, with emphasis on problems of germination.*

*To assess the regeneration of white spruce in swamps being managed for both deer and timber.*

*Prescribed Burning.* In a small diameter hardwood stand, mainly of sprout origin, the fourth spring burn and the third fall burn were carried out successfully. The fourth series of fall burns took place in a mature hardwood stand in another study area.

In the Swan Lake Research Reserve in 1963, the last of five scheduled fall burns was carried out in a stand of predominately hard maple. Even though this species sometimes requires a few years to react to treatment, observations to date indicate the mortality of trees greater than 4.5 inches d.b.h. is negligible.

*Basswood.* Basswood seed studies with respect to fruit collection, storage and germination were completed in 1964. The first results are compiled in a Research Report entitled "Germination of early collected fruit of *Tilia americana* L."

An Interdepartmental Co-operative Research Basswood Planting Project was started in 1964 to investigate the feasibility of planting basswood on tolerant hardwood clear-cut strips. Basswood seedlings were planted on northern and southern slopes, where survival was 90% after the first year. Additional plantings will be carried out in 1965 and 1966. Natural regeneration of basswood is being studied on these strips. Seedlings on mil-acre quadrat plots are marked, and their development recorded annually.

*White Spruce.* In this co-operative programme with the Wildlife Section and the Tweed Forest District, designed to study the management of an area for deer and timber, the final cut took place and analysis of the regeneration data is continuing.

## MECHANICAL RESEARCH

The function of the Mechanical Research Section is to develop, improve and test equipment and instruments to meet the special needs of the Department, the Research Branch, particularly. The Section also is consulted for technical advice in mechanical engineering problems.

The equipment previously reported for filling tubes with soil in which tree seeds are planted was improved for the Forestry Section.

A laboratory device was designed and constructed for measuring density of wood samples in the wood quality project. A helicopter seeder was constructed for the Timber Branch, (two others having been constructed in previous years) and two plankton samplers were built for the Fisheries Research Section.

An instrument was developed for the Wildlife Research Section to measure the crushing resistance of snow, related to difficulty of deer travel. Two special mechanically operated traps for upland game were also built for this Section. A special portable cold chamber was developed to keep blood samples of birds caught in these traps in good condition.

A continuation of the forest fire equipment-testing programme included endurance tests of the new Mark III Wajax pump. A few minor modifications were recommended.

A forest fire hose dryer, able to handle 900 feet of unlined hose per hour with a considerably greater capacity for lined hose, was developed and constructed.

Also, a gas-fired hose dryer was developed and constructed, using liquified petroleum or natural gas for fuel instead of electrical power. Gas can be used in any location, is not dependent on availability of electrical energy and is cheaper, because electrical stand-by charges would be excessive.

The Mechanical Section rendered many miscellaneous services in connection with the design, construction, modification, repair and inspection of intricate equipment intended for Departmental use.

## MENSURATION AND STATISTICS

### Statistical Analysis of Experimental Data

The objective is analysis by mathematical procedures, termed "statistical methods", of the results of investigations carried on by various sections of the Research Branch. The purpose is to avoid drawing unwarranted conclusions and to be able to present reliable evidence of the dependability of results secured. Review of the plans laid out for experiments is involved.

### Mensuration

#### MENSURATION WORK IN GENERAL

This work includes the measurement of standing timber (cruising), the measurement of wood cut (scaling), the construction of tables of the volumes of trees (for use in cruising), the measurement of past growth and the estimation of future growth. These lines of work involve many of the techniques and are based on the same principles as the analysis of experimental data. Combining the two classes of work in one section makes it possible to employ men with a combination



of forestry and statistical training, which qualifies them better for both classes of work. Forestry training helps in understanding forestry experiments and statistical training is valuable in mensuration work.

## CONSTRUCTION OF TREE VOLUME TABLES

Calculation of volume tables for 19 Ontario tree species are in progress, using an algebraic method carried out on the I.B.M. computer at the University of Toronto. Measurements of 23,500 trees made by this Branch and by the Timber Branch are available for the purpose.

The method was originally proposed in 1929 by a professor of forestry employed by the Department, but could not be used because of the heavy arithmetic involved and the non-existence of computers. The method received initial trials in a simplified form in 1950 by the Research Branch and also in the United States and Sweden. The final form of weighted regression was developed by a graduate student with assistance from the Department.

It is the first time this technique has been used anywhere, and trials indicate that a single computer programme will satisfactorily produce volume tables of any of the several types required for each species. It is also indicated that practically all existing tables produced by older methods should be considered obsolete because of errors introduced by the old methods of construction.

## SAMPLING ERROR OF SYSTEMATIC SURVEYS

The uniform spacing of the cruise lines along which timber estimates are made tends to give an excessive estimate of probable error when the standard methods of statistics are used. The results of a 100% survey made by the United States Forest Service of an area of eight square miles, have been analyzed in detail to reveal the difference between the results of systematic and random sampling and to test a method of computing standard error worked out by Dr. D. B. DeLury, Chairman, Department of Mathematics, University of Toronto.

## REPORTS

Research Branch Reports Published During the Year Ending March 31, 1965.

### Fisheries

Chemical Characteristics of Ontario Lakes as Related to Glacial History. R. A. Ryder. Trans. Am. Fish. Soc., Vol. 93, No. 3, July 1964. Dist. December, 1964. The Invasion of the Lower Great Lakes by the White Perch *Roccus americanus* (Gmelin). W. B. Scott and W. J. Christie. J. Fish. Res. Bd. Canada 20(5), 1963. Dist. July, 1964.

Chemical Characteristics of Ontario Lakes with Reference to a Method for Estimating Fish Production. R. A. Ryder. Section Report (Fisheries) No. 48. Dist. July, 1964.

On the Feasibility of Introducing Kokanee the Land-Locked Sockeye Salmon *Oncorhynchus nerka kennerlyi* to the Great Lakes. F. P. Maher. Section Report (Fisheries) No. 55. Dist. Aug. 1965.

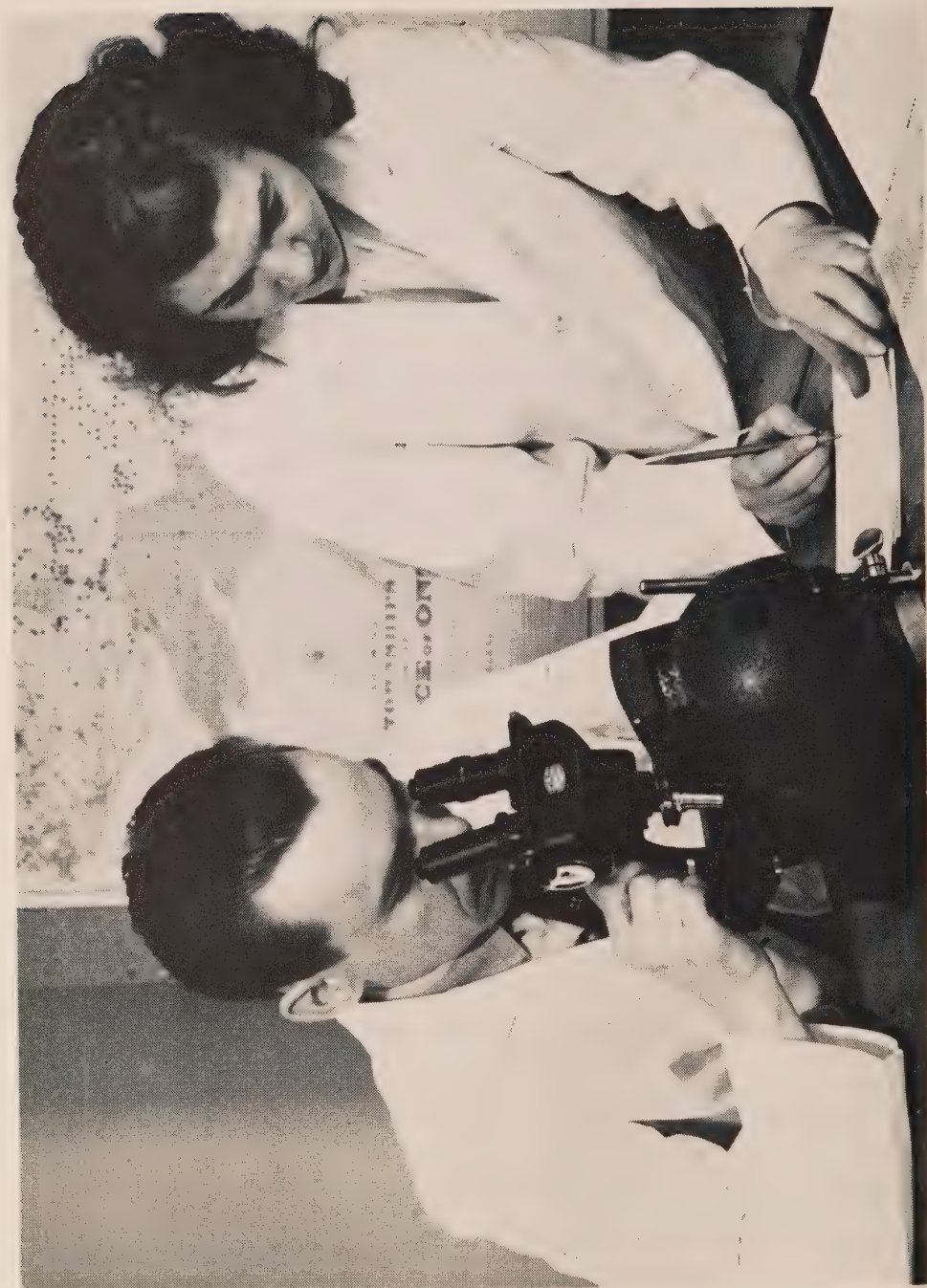
Status of Fisheries Research Projects for the Year 1963. Section Report (Fisheries) No. 51. Dist. Aug. 1964.

Fishes of Northern Ontario, North of the Albany River. R. A. Ryder, W. B. Scott and E. J. Crossman, Life Sciences Contr. 60, 1964. Dist. April, 1965.



## Forestry

- Greta Lake Road Reference Area, Geraldton Site District, Site Region 3W. R. J. Lynn and S. C. Zoltai. Research Report No. 60, January, 1964.
- Where are We in Soil-Site Classification. Geoffrey Pierpoint. The Application of Soils Information in Forestry, Misc. Pub. 1964, N. Y. State College of Agriculture at Cornell University, Ithica. November, 1964.
- The Genetics of Red Pine and Its Implications to Breeding and Seed Procurement. D. P. Fowler. Proc. Conference on Artificial Regeneration in Ontario. Feb. 18, Maple, Ontario: 19-21. 1964.
- Pre-Germination Selection Against a Deleterious Mutant in Red Pine. D. P. Fowler. Forest Science (10(3): 335-336. 1964.
- Effects of Inbreeding in Red Pine, *Pinus Resinosa* Ait. D. P. Fowler. Silvae Genetica 13(6): 170-177. 1964.
- Provenance Differences in the Stratification Requirements of White Pine. D. P. Fowler and T. W. Dwight. Can. J. Botany. 42: 669-675. 1964.
- Effects of Inbreeding in Red Pine, *Pinus Resinosa* Ait., II Pollination Studies. D. P. Fowler. Silvae Genetics 14(1): 12-23. 1965.
- Damage by Fire Fungus, *Rhizina undulata* Fr. in Europe. C. Heimburger Proc. Conference on Artificial Regeneration in Ontario. Feb. 18, Maple, Ontario 18-19. 1964.
- Acidification of a Forest Tree Nursery Soil. R. E. Mullin. Soil Sci. Proc. 28(3): 441-44. 1964.
- Influence of Planting Depth on Survival and Growth of Red Pine. R. E. Mullin For. Chron. 40(3): 384-371. 1964.
- Comparisons of Sampling Methods for Inventory of Nursery Stock. R. E. Mullin Tree Planters' Notes 67:3-8. 1964.
- Reduction in Growth of White Spruce After Outplanting. R. E. Mullin. For. Chron. 40(4): 488-493. 1964.
- The Relationship Between Rate of Growth and Specific Gravity in Black Spruce. A. D. Hall. Section Report No. 50, 9 pages. April, 1964.
- Field Trip and Study Tour to Mexico, August, 1963. Alan G. Gordon. Res. Branch, Ont. Dept. of Lands and Forests. (Limited Distribution). 1964.
- The Nutrition and Growth of Ash *Fraxinus excelsior* in Natural Stands in the English Lake District as Related to Edaphic Site Factors. Alan G. Gordon. J. Ecol. 52: 169-187. 1964.
- The effects of Some Ecological and Silvicultural Conditions on Seasonal Diameter Growth as Measured with Dendrometer Tapes. H. C. Larsson, P. Jaciw and O. Roos. Research Report No. 56, July, 1964.
- A Modified Dendrometer Tape for Forestry Research. H. C. Larsson, and P. Jaciw. Research Report No. 58, August, 1964.
- Analysis of Growth of a Mixed Scotch and Jack Pine Plantation. H. C. Larsson and P. Jaciw. Section Report (Forestry) No. 52, July, 1954.



Examining slides of insect smears

## Wildlife

- The Rock Ptarmigan (*Lagopus mutus rupestris*) in Ontario and Manitoba. H. G. Lumsden. Can. Field-Naturalist, Vol. 78, No. 3, 1964.
- Age Determination for Beavers by Tooth Development. Van Nostrand and A. B. Stephenson. Jour. Wildlife Mgt., Vol. 28, No. 3: 430-434, July, 1964.
- Effect of Thyroxine on the Gonadotrophin Dose Response Line Using the Chick's Testicular Response. A. Van Tienhoven, D. Simkin, J. Weske and G. R. Barr. Endocrinology, Vol. 76, No. 2: 194-197, Feb. 1965.
- Aerial Surveys of Polar Bear Populations in Ontario—August and September, 1963. R. G. Standfield, G. Kolenosky, J. Shannon and J. Macfie. Section Report (Wildlife) No. 53, Sept. 1964.
- Rabies in Ontario. D. H. Johnston. Research Information Bulletins (Wildlife) for each of the 12 months, April 1964 to March 1965 inclusive.
- A Manual of Common Parasites, Diseases and Anomalies of Wildlife in Ontario. A. Fyvie. 84 pages. December, 1964.
- A Photo Story, Polar Bears on the Hudson Bay Coast. G. Kolenosky and R. O. Standfield. Ont. Fish and Wildlife Review, Vol. 3, No. 2: 16-24. Summer, 1964.
- Northern Forests and Tundra. H. G. Lumsden and Edward G. Wellein. Chapter in Waterfowl Tomorrow. 784 pages, 1964. United States Dept. Interior, Fish and Wildlife Service.
- Predator Control Report 1963-64. J. Shannon. Progress Report, Feb. 1965.
- A Comparison of Moose Age Data Collected From Two Areas Differing in Accessibility to Hunter. D. W. Simkin. Resource Management Report, No. 75, pp. 12-16. May, 1964.
- Some Differences in Ages of Moose Shot in Heavily Hunted and Lightly Hunted Areas. D. W. Simkin. Ont. Fish and Wildlife Review, Vol. 3, No. 3: 8-11. Fall, 1964.





Site preparation for regeneration, Swastika District.



A woodlot meeting is enlivened by a log sawing contest.



# TIMBER BRANCH

## Responsibilities of Timber Branch

### FORESTRY STUDY UNIT

A special study group, established by the Minister, to examine the Province's forest resources and its forest industries.

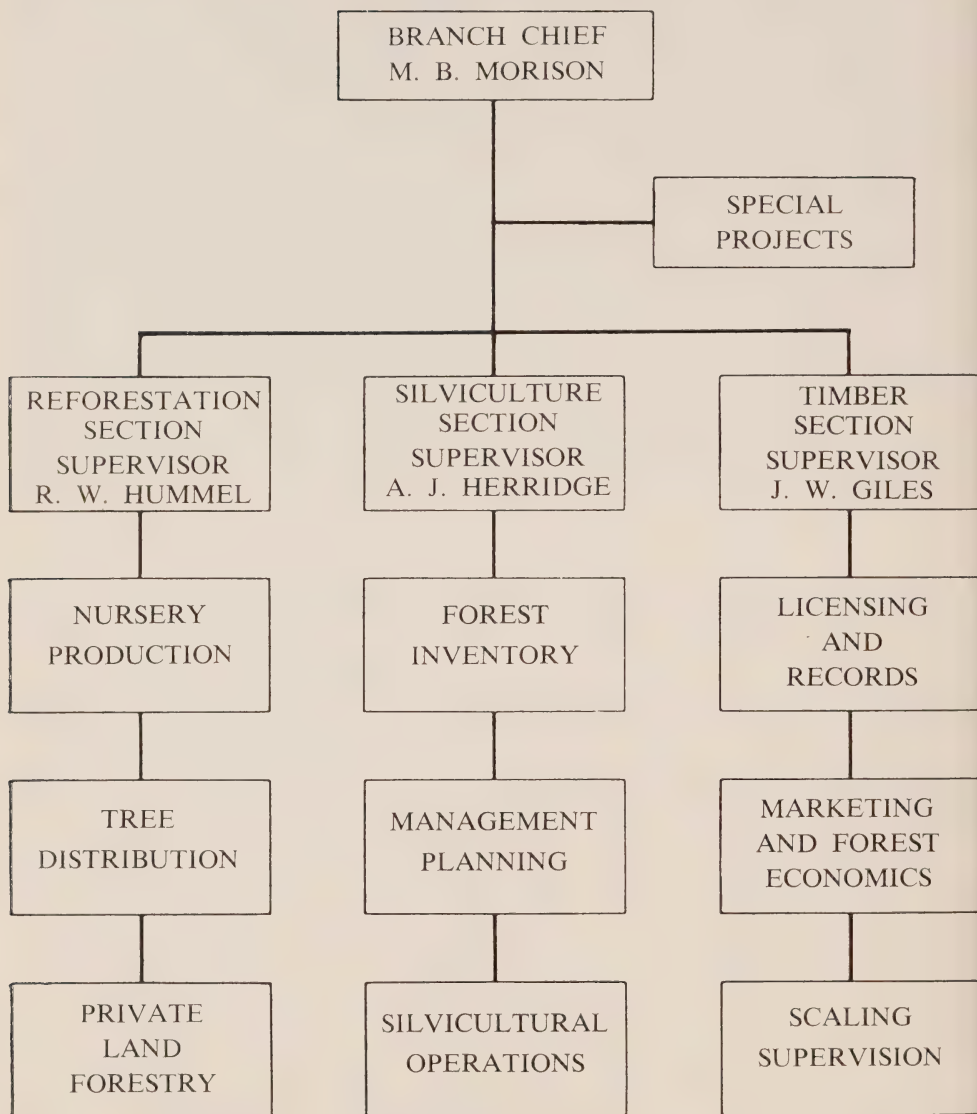
### REFORESTATION SECTION

1. *Tree Production*: In addition to production of planting stock at tree nurseries, this includes the acquisition, treatment, storage, and distribution of tree seed, the establishment of seed production plots and nursery soil management.
2. *Tree Distribution and Agreement Forest Administration*: Control and distribution of nursery stock for both Private and Crown Land. This unit is also charged with the responsibility of administering the forest management agreements which the Minister has entered into under Section 2 of the Forestry Act.
3. *Private Land Forestry*: Assistance is provided for organizations and individuals interested in reforestation, woodlot management and conservation.

### SILVICULTURE SECTION

1. *Forest Resources Inventory*: This includes the contracting for revision photography, in accordance with the approved ten-year schedule as shown on the map on next page; the necessary field sampling, photo-interpretation, map revision and compilation of inventory reports and maps for Crown Management Units. As well, checks of inventory data of Company Management Units are also carried out. Supplementary assignments include the determination of productive and unproductive areas on timber licences and for purposes of levying Provincial Land Tax, the preparation of contour plans and the sale of maps and photographs from the Department Photo Library.
2. *Management Planning*: This unit is concerned with the overall supervision of the preparation of management plans for Crown Management Units, Agreement and Nursery Forests which are prepared by foresters in the Districts; the prior examination of, and recommending on all management plans—both for Crown and Company Management Units for approval by the Minister; the preparation of necessary Planning Manuals and Volume Tables; the calculation of available allowable cuts in areas of interest for purposes of considering the establishment of new industry. This unit also supervises the construction of access roads on Crown lands.
3. *Silvicultural Operations*: The major function of this unit is the technical and administrative direction of the regeneration and stand improvement programs carried out on Crown lands in the Province. The regeneration work, though mostly concerned with areas recently cut over or burned, is also concerned

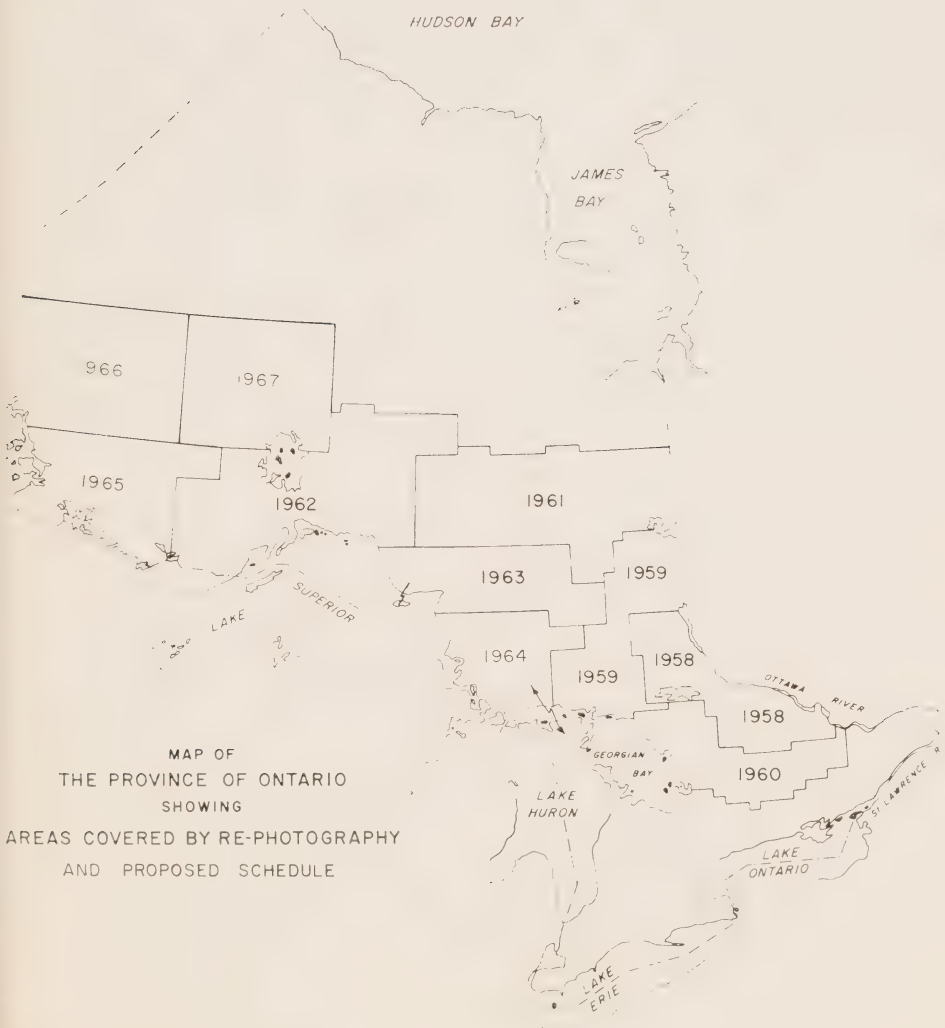
## TIMBER BRANCH



with the establishment of a tree cover on lands acquired for management. The stand improvement program is primarily designed to improve the quality and quantity of the final crop.

## TIMBER SECTION

1. *Timber Sales:* The issuance of Licences, measurement of cut timber, preparation of accounts for the collection of stumpage charges, and the compilation of statistics.
2. *Marketing and Forest Economics:* The promotion of industrial expansion and the establishment of new industry, the publication of area reports and industry directories, and the preparation of special economic studies.
3. Licencing of sawmills, pulp and paper mills.
4. *Scaling:* The development of new scaling techniques, the registration and licensing of scalers.



## Forestry Study Unit

The Honourable A. Kelso Roberts, Minister of Lands and Forests, announced on August 31st, 1964, the formation of a Forestry Study Unit to examine into the existing forest resources of the Province of Ontario to assure continued progress in utilization with a view to their fullest development.

The Unit will study forestry practices in Ontario and recommend such measures as may be necessary to continue sound programs of silviculture, conservation and forest management and suggest how to get the highest possible sustained yield from our forest resources.

The Unit will also study the forest based industries of Ontario and recommend such action as may be considered necessary to promote and encourage industries based on forest resources.

The primary purpose of this study is to assure forest resources will be used to the best advantage of the people of the Province and to this end all segments of industry and other interested sources will be consulted.

The studies will be carried out by J. A. Brodie, for many years Chief of the Timber Branch of the Department of Lands and Forests and Gordon G. Cosens, a former Dean of the Faculty of Forestry, University of Toronto, and for the past several years a senior official of the Forest Industries.

These experts in forest management bring to the study of forestry in Ontario an experience extending over 40 years in Government administration and industrial forest operations combined with sound academic backgrounds. Their independent studies, enquiries and reports over the next two years will assist the Government in efficient administration of the forest resources and aid in furthering the present forest management programs and assure that Ontario is keeping pace with all modern developments in Forestry.

On February 22nd, 1965, Gordon G. Cosens, due to poor health, submitted his resignation as a member of the Forestry Study Unit.

## REFORESTATION SECTION

### Tree Distribution Unit

#### NURSERY STOCK CONTROL

The control and distribution of nursery stock involves the recording and maintenance of inventories of nursery stocks that are on hand at nurseries operated by the Department and that are available for disposition as provided in Section 7 of The Forestry Act and for use of Ontario. Over 6,000 applications and requisitions for nursery stocks were processed resulting in the issue of over 5,000 orders to nurseries and the disposition of 49,484,068 trees during the year—an increase of 5,561,383 trees over the number distributed during the previous year. 1,775,580 more trees were furnished in respect of private lands during this year than were furnished for the purpose during the previous year.



# SUMMARY OF DISPOSITIONS OF NURSERY STOCK

April 1, 1964 to March 31, 1965

Purpose	Trees
Furnished in respect of private lands .....	10,791,980
Furnished for educational or scientific purposes .....	140,516
Furnished for use of Ontario .....	38,551,572
<b>Total</b> .....	<b>49,484,068</b>
<b>Species</b>	
White Pine .....	10,250,875
Red Pine .....	9,391,180
Jack Pine .....	6,312,850
Scotch Pine .....	2,118,706
White Spruce .....	16,290,952
Black Spruce .....	3,104,710
Norway Spruce .....	217,460
Red Spruce .....	154,200
White Cedar .....	735,944
European Larch .....	96,560
Tamarack .....	25,550
White Ash .....	55,345
Silver Maple .....	162,853
Red Oak .....	120,775
Carolina Poplar .....	312,555
Black Locust .....	78,325
Other .....	55,228
<b>Total</b> .....	<b>49,484,068</b>

## NURSERY STOCK DISPOSITIONS

April 1, 1955 to March 31, 1965

Year	Trees
1955-56 .....	28,351,483
1956-57 .....	31,081,112
1957-58 .....	25,854,262
1958-59 .....	33,414,110
1959-60 .....	41,682,125
1960-61 .....	49,833,412
1961-62 .....	43,194,863
1962-63 .....	43,767,916
1963-64 .....	43,922,685
1964-65 .....	49,484,068

# TREES FURNISHED IN RESPECT OF PRIVATE LAND

April 1, 1964 to March 31, 1965

County or Territorial District	Orders	Trees
Algoma .....	72	243,475
Brant .....	62	83,450
Bruce .....	69	94,850
Carleton .....	90	216,125
Cochrane .....	3	2,375
Dufferin .....	106	271,000
Dundas .....	5	22,875
Durham .....	101	480,600
Elgin .....	68	65,475
Essex .....	49	56,525
Frontenac .....	111	120,250
Glengarry .....	39	41,625
Grenville .....	53	141,450
Grey .....	147	466,950
Haldimand .....	51	85,350
Haliburton .....	47	93,000
Halton .....	105	224,450
Hastings .....	118	313,375
Huron .....	82	190,150
Kenora .....	21	69,625
Kent .....	44	71,725
Lambton .....	85	110,550
Lanark .....	98	162,350
Leeds .....	41	65,500
Lennox & Addington .....	66	87,525
Lincoln .....	40	52,650
Manitoulin .....	21	27,775
Middlesex .....	125	240,575
Muskoka .....	89	151,600
Nipissing .....	17	32,275
Norfolk .....	161	230,625
Northumberland .....	66	148,700
Ontario .....	147	348,075
Oxford .....	77	203,075
Parry Sound .....	97	262,325
Peel .....	169	576,175
Perth .....	95	77,850
Peterborough .....	61	112,650
Prescott .....	50	79,225
Prince Edward .....	53	49,150
Rainy River .....	25	63,175
Renfrew .....	115	252,575
Russell .....	23	139,075
Simcoe .....	302	1,326,350
Stormont .....	24	75,500
Sudbury .....	44	167,200
Thunder Bay .....	112	682,230
Timiskaming .....	21	23,900
Victoria .....	52	72,275
Waterloo .....	98	218,675
Welland .....	89	184,225
Wellington .....	135	389,800
Wentworth .....	137	284,950
York .....	269	538,700
Totals .....	4,447	10,791,980

AGREEMENTS UNDER SECTION 2 OF THE FORESTRY ACT  
(as of March 31, 1965)

Agreement with	Date of Agreement	Number of Acres	
		Added During Year	At Mar. 31, 1965
Conservation Authorities:			
Ausable River	Dec. 13, 1951		4,249.00
Big Creek Region	Dec. 2, 1954	487.00	3,125.90
Catfish Creek	Dec. 19, 1962	100.00	501.00
Central Lake Ontario	Sept. 24, 1963		145.00
Crowe Valley	Aug. 21, 1963		200.00
Canaraska Region	Jan. 31, 1947	154.00	8,132.60
Grand Valley	Mar. 18, 1952	150.00	5,433.06
Lakehead Region	May 15, 1958		1,256.70
Lower Thames Valley	Aug. 12, 1964	300.00	300.00
Maitland Valley	Apr. 1, 1955		949.00
Metropolitan Toronto and Region	Apr. 11, 1951		1,878.00
Moirs River	Nov. 28, 1951	863.00	13,438.00
Napanee Valley	Oct. 28, 1954		6,145.00
Niagara Peninsula	June 6, 1963		186.00
North Grey Region	June 25, 1958	995.00	5,833.00
Otonabee Region	May 15, 1963	415.00	1,215.00
Otter Creek	Apr. 26, 1957	175.00	1,435.00
Sauble Valley	Sept. 29, 1959	184.00	2,102.00
Saugeen Valley	Dec. 15, 1952	814.00	11,343.00
South Nation River	Mar. 28, 1960	140.00	366.50
Spencer Creek	Oct. 19, 1962		12.50
Upper Thames River	Apr. 11, 1951	20.00	3,364.36
Sub-totals		(4,797.00)	(71,610.62)
Counties:			
Brant	Nov. 15, 1952		50.00
Bruce	Jan. 20, 1950	300.00	15,453.35
Carleton	July 30, 1964	680.00	680.00
Dufferin	Nov. 26, 1930		2,305.00
Grey	Dec. 21, 1937	100.00	8,278.08
Halton	Mar. 14, 1950	53.00	1,298.63
Huron	Nov. 27, 1950		1,439.00
Kent	Dec. 23, 1953		75.39
Lanark	July 5, 1940		3,346.00
Leeds & Grenville	Apr. 24, 1940	200.00	6,264.50
Lennox & Addington	Apr. 3, 1952		1,186.00
Middlesex	Mar. 8, 1954	100.00	1,119.50
Northumberland & Durham	June 10, 1924		4,877.00
Ontario	July 9, 1930		2,000.00
Oxford	Sept. 1, 1950		716.56
Renfrew	Mar. 15, 1937		23,485.83
Prescott & Russell	Dec. 26, 1951	1,551.00	5,983.00
Simcoe	June 19, 1925	265.00	18,969.04
Stormont, Dundas & Glengarry	Sept. 20, 1949		2,048.45
Victoria	Aug. 10, 1928		7,044.00
Waterloo	Apr. 17, 1950		710.48
Wellington	June 18, 1964	1,100.00	1,100.00
Wentworth	Nov. 27, 1952		889.30
York	Mar. 27, 1924	157.00	4,074.08
Sub-totals		(4,506.00)	(113,393.19)
Townships:			
Bonfield	Apr. 1, 1952		60.00
Charlottenburgh	Apr. 1, 1955		175.00
Cramake	Jan. 14, 1964		162.00
Cumberland	May 29, 1952		808.44
Darlington	Aug. 19, 1964	140.00	140.00
Galway & Cavendish	Nov. 1, 1952	519.00	619.00
Machar	Dec. 30, 1963		90.00
Marlborough	Nov. 21, 1953		200.00
Mosa	July 16, 1964	72.00	72.00
Torbolton	Mar. 28, 1953		430.80
Williamsburgh	Oct. 19, 1962		400.00
Sub-totals		(731.00)	(3,157.24)
Totals		10,034.00	188,161.05

## AGREEMENT FOREST ADMINISTRATION

Under Section 2 of The Forestry Act, the Minister is authorized to enter into agreement with the owners of lands that are suitable for forestry purposes for the management of such lands and to make grants to any conservation authority or to any municipality for the purpose of assisting it in the acquisition of lands that are to be managed under such an agreement. Agreements have been made with 22 conservation authorities, 24 counties, and 11 townships. Over 100 applications for approval of the Minister to acquire lands to be added to the forest areas being managed under such agreements were processed during the year resulting in 10,034 acres being added to the forest areas managed under such agreements. A total of \$123,931.49 in grants was paid to the conservation authorities and municipalities to assist them with the acquisition of the lands. \$34,808.83 of this amount was paid from funds provided for projects approved under the Agricultural Rehabilitation and Development Act.

### Trees Conservation

Section 4 of The Trees Act empowers the council of a county of a municipality in a territorial district to provide for the conservation of trees in woodlots having an area of more than two acres, by passing by-laws (subject to approval of the Minister of Lands and Forests) to restrict and regulate the destruction of the trees by cutting, burning or other means. Tree Conservation by-laws have been passed by the councils of 22 counties and 1 township as follows:

#### Counties:

Brant	Lambton	Perth
Bruce	Leeds & Grenville	Waterloo
Dufferin	Lincoln	Welland
Elgin	Middlesex	Wellington
Grey	Norfolk	Wentworth
Haldimand	Northumberland	<b>Township:</b>
Halton	& Durham	Brunel
Hastings	Oxford	
Huron	Peel	

### TREE PRODUCTION UNIT

In the current fiscal year, sufficient seed was sown at 10 forest tree nurseries for the production of 62,500,000 units of nursery stock.

#### NURSERY STOCK PRODUCTION TARGET

Species	Number of Trees
White Pine	9,375,000
Red Pine	7,961,000
Jack Pine	11,202,000
Scotch Pine	2,590,000
White Spruce	19,599,000
Black Spruce	8,610,000
Other species	3,163,000
Total	62,500,000

Tree seed was collected, processed, stored and distributed as required for sowing in tree nurseries, for direct seeding operations and other purposes. The inventory of forest tree seed in storage at the Ontario Tree Seed Plant at Angus, as of June 1, 1964, was about 1,450,000,000 viable seeds, weighing 319,500 ounces or nearly 10 tons and valued at approximately \$225,000.00.

Larger amounts of seed are collected and stored in a good crop year.



providing the necessary reserves to overcome shortages caused by the natural periodicity of good cone crops which may vary from every 3 to every 5 years or by failure of the crop due to disease or insect attack or unfavourable climatic conditions.

TREE SEED COLLECTED — 1964 CROP YEAR

Species	Number of Bushels
White Pine	1,509
Red Pine	259
Jack Pine	4,571
White Spruce	1,316
Black Spruce	1,791
Other species	611
Total	10,057

Tree Improvement

The tree improvement programme, concerned with increasing the quality and quantity of seed available, was continued through the selection of additional “plus” trees, the development of seed production areas and the planting of grafted trees in seed orchards. The program is concerned mainly with white and red pine, white and black spruce. During the current fiscal year 7,850 scions were collected from “plus” trees for grafting at four co-operating nurseries. In addition, 1,000 scions from white pine trees showing resistance to blister rust were grafted. 76.7 acres of seed production area were thinned, released or otherwise improved for seed production purposes. 2,193 grafted trees for seed orchards were planted on 10.5 acres.

The plans for tree improvement call for the major portion of the seed required for the production of 62,500,000 trees to be obtained from seed production areas and seed orchards. This will require the establishment of some 520 acres of seed production area and 200 acres of seed orchard.

ESTABLISHED SEED PRODUCTION AREAS AND SEED ORCHARDS AS OF MARCH 31, 1965

	Number	Acres
Seed Orchards	7	90.6
Seed Production Areas	20	220.1

Nursery Soil Management

Reforestation Section objective is to produce as economically as possible the required number of top quality tree seedlings for Crown and Private planting projects. (1964-65 sowing target aimed at the production of 62,500,000.)

To assist in maintaining high quality production, approximately 500 soil and 500 plant samples are analysed each year. The analysis data is used as a basis for making soil amendments, as an indicator of the value of new management techniques, and for solving problems in stock growth.

Trials in the use of such devices as fumigation are undertaken. For example the soil fumigant Trizone was used on 12 acres of seedbed land in 1963-64 and again in 1964-65 on another 12 acres. We are now determining its merit in

increasing stock growth, seed germination, and reduction in disease and weed problems.

Co-operative research experiments are carried out with other agencies such as The University of Toronto, and The Department of Forestry. With the former, we are undertaking studies in optimum fertilizer levels, the relationship of fertilizer and stock density to growth, the use of irrigation water and the use of degree days in producing "Custom grown" stock. With the latter such studies as nursery diseases, seedling nutrition and nursery soil fertility are undertaken on a co-operative basis.

## Private Land Forestry Unit

Four farm foresters were appointed in Southern Ontario in 1964-65 to assess the needs in private land forestry and to devise programs designed to satisfy those needs.

In all districts, forestry advice and service were provided to individual forest owners and organizations to improve forestry on private lands.

Surveys were undertaken to determine the production of forest products from private lands.

### SUMMARY OF FORESTRY SERVICE PROVIDED TO OWNERS AND ORGANIZATIONS—1964-65

A. Number of enquiries received .....	4,352	
B. Number of field inspections made .....	1,987	
(a) For tree planting purposes .....	884	
(b) For woodland management purposes .....	712	
(c) For miscellaneous purposes .....	391	
C. Number of enquiries answered by mail and phone .....	2,365	
D. Number of acres for which management plans were prepared ...	19,733	
E. Volume of timber marked:		
(a) Sawlogs .....	4,060,000	f.b.m.
(b) Pulpwood .....	2,731	cords
(c) Posts and Poles .....	60,300	pieces
F. Number of forestry clubs serviced .....	36	
G. Hours spent on forestry instruction .....	59	
(a) University of Guelph .....	13	
(b) Kemptville Agricultural School .....	34	
(c) Western Ontario Agricultural School .....	12	

### ADDITIONAL CONTRIBUTIONS TO PRIVATE LAND FORESTRY

1. Leadership training of farm boys and girls, involving one week of forestry instruction to approx. 60 selected young people from Southern Ontario.
2. Conducted tours of St. Williams, Orono, Midhurst and Kemptville Nurseries, and Angus Seed Plant. Approx. 4,000 school children were given such tours.
3. Collaboration in preparing the manning exhibits at CNE, Ottawa, London, Royal Winter Fair, International Ploughing match.
4. Organized a provincial centennial tree planting programme for schools.

## Private Woodland Production Survey

In co-operation with the Dominion Bureau of Statistics 6,300 owners in 630 sample segments were enumerated mainly by personal contact to determine the annual production from private forest land.

ESTIMATE OF FOREST PRODUCTS FROM PRIVATE LANDS  
APRIL 1, 1963 — MARCH 31, 1964

Item	Units of Measurement	S.W. Region	S.E. Region	Pembroke & North Bay Districts	Total
Sawlogs	M. f.b.m.	43,212	40,086	6,683	89,981
Veneer Logs	M. f.b.m.		1,853	66	1,919
Bolts	Cords	5,906	626	579	7,111
Pulpwood-Peeled	Cords	130	12,612	8,496	21,238
Pulpwood-Rough	Cords	7,469	50,651	42,389	100,509
Pitprops & Mine Timbers	Cords				
Fuelwood	Cords	164,555	177,360	19,056	360,971
Poles	Number	10,825			10,825
Poles	Cu. ft.	161,094	143,945		305,039
Ties	Cords			23,252	23,252
Fence Posts	Number	444,103	822,017	110,344	1,376,464
Fence Rails	Number	5,418	54,245	6,782	66,445
Fence Pickets	Number	19,848	778,070	217,821	1,015,739
Total Production	M. cu. ft.	23,674	29,885	7,803	61,362

## SILVICULTURE SECTION

### Inventory Unit

Hunting Survey Corporation Limited of Toronto completed 291 square miles of aerial photography in the 1963 rephotography contract area. Following a public call for tenders, Capital Air Surveys Limited of Ottawa was awarded the 1964 rephotography contract which involves 12,602 square miles in the District of Sault Ste. Marie, Manitoulin Island and the south portion of Chapleau District. Adverse weather conditions prevented the completion of this contract resulting in a total production of 5,712 square miles of photography.

Map revision contracts for the purpose of updating the base maps of the 1962 and 1963 rephotography areas and a portion of the 1961 contract area were awarded to Spartan Air Services Limited of Ottawa, and Hunting Survey Corporation Limited respectively. These contracts were completed during the fiscal year and represent a production of revision mapping on 51,590 square miles.

Field work was located in the Administrative Districts of Gogama, Chapleau, and White River. Five field parties using the wedge prism method\* obtained ground samples in the Crown Management Units of those Districts. These parties had either a graduate forester or an experienced forest technician as party chief with university students making up the balance.

Photo interpretation was completed on the above field work representing an area of 6,345 square miles.

Forest stand maps and tabulated inventory data, such as, area classification, detailed stand descriptions, volume and area summaries by age classes were completed on 9,833 square miles. This area is made up of the Crown Management Units in the Parry Sound District, the Severn Management Unit in Lake Simcoe District, the Gillies Management Unit in North Bay District, and a portion of the E. B. Eddy Licence in Swastika District.

\* For details of method see Silviculture Bulletin No. 1.

The multiplex plotting machine was used to interpret contours and form lines and prepare plans for Parks Branch. Under this program plans were completed for the W. B. Greenwood Park, 36.6 square miles, scale 600' = 1 inch with 20' contour intervals, 15.3 square miles of Killarney Park, scale 1320' = 1 inch, with 50' contours and 2.3 square miles, scale 300' = 1 inch, with 20' contours. Mijine-



munghsing Lake Park, 4.6 square miles, scale 500' = 1 inch with 10 contours and Bon Echo Park, 2.4 square miles, scale 500' = 1 inch with 10' contour intervals.

The use of planimetric and forestry maps remained at a high level and were reproduced as white prints under a one-year contract with Norman Wade Co. Ltd. of Toronto. The photo processing staff produced 89,812 contact prints; 1,163 photo mosaics at a scale of 1" = 1 mile, 62 at a scale of 2" = 1 mile, and 1,043 at a scale of 4" = 1 mile; 3,062 enlargements; 12 film diapositives, 69 multiplex plates and 319 Kelsh plates; 524 copy negatives, 774 Cronaflex prints and developed 25, 35mm. slides and 6 rolls of acrid film.

The following table shows the gross value of production from the photo processing unit in recent years.

	Cash Receipts	Value of Dept. Work	Total
1960-61 .....	\$37,072.16	\$12,154.64	\$49,197.80
1961-62 .....	47,429.92	19,967.59	67,397.51
1962-63 .....	47,154.13	21,792.09	68,946.22
1963-64 .....	59,907.06	30,350.22	90,257.28
1964-65 .....	69,386.13	19,802.26	89,188.39

## Forest Management Planning

The revision of management plans for Crown units has followed closely the reinventory of Crown lands, now in progress.

Within 18 months of the completion of the reinventory of a management unit, the revised management plan is prepared by the district staff. The plan is drawn for a 20-year period and will be revised at 20-year intervals thereafter, on the basis of rephotography and a new forest inventory at that time and on experience gained in the past periods. The basic planning considers management objectives and the means of their attainment over a period of one hundred years, more or less. This planning is based on such considerations as the arrangement of species and age-classes on the productive forest land, a permanent road network, division of the forest into accessible compartments, the rotations of the working groups, etc. This planning constitutes a framework into which 10-year operating plans are fitted as time passes. An operating plan shows, in detail, the stands to be cut, regenerated, and tended, the roads to be built, and the improvements to be made.

This type of planning is standard for Crown management units and Agreement Forests\* for which plans are prepared by Department staff. The main essentials of planning are contained in the Manual of Management Plan Requirements, as a guide for the staffs of the larger licensees in the preparation of management plans for Company management units.

There are 216 management units in the Province, each operating under a plan of its own. This number is subject to change from year to year due to abandonment and acquisition of licences, and to division and consolidation of management units at the time of plan revision.

### MANAGEMENT PLANS

1. *Crown Management Units*—Plans prepared by Department staff. There are 81 Crown Management Units, covering 88,214.7 square miles with 77 management plans in force as follows:

\**Agreement Forests—lands managed by the Minister under an Agreement with a municipality or conservation authority.*



5—Standard management plans approved and in force .....	2,876.6 sq. mi.
72—Interim management plans approved and in force .....	83,434.0 sq. mi.
4—Management units not yet under plans .....	1,904.1 sq. mi.

The preparation of standard plans is being undertaken in the Districts of Lindsay, North Bay, Parry Sound, Pembroke, Sault Ste. Marie, Sudbury, Swastika and Tweed. The 5 management units for which plans are approved are the Cobalt, Englehart, Nipissing, Petawawa, and Temagami covering an area of 2,876.6 square miles. Plans have been received and are being examined for 5 units covering 1,908.2 square miles; plans are in the process of completion on another 22 management units covering an area of 11,852.0 square miles.

The number of management units has not changed since last year, but a net increase in area in Crown units of 683.9 square miles has resulted from areas coming back to the Crown from timber licences in Company Management Units and areas in Crown Units being licensed in Company Management Units.

Except for those units which are inactive, operations on the management units are controlled by operating plans. On Crown Management Units—

5 units have new operating plans .....	2,876.6 sq. mi.
51 units have interim operating plans .....	50,792.5 sq. mi.
3 units operating plans not submitted .....	12,655.7 sq. mi.
16 inactive units .....	21,889.9 sq. mi.

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88,214.7

2. *Company Management Units*—Plans for these units prepared by the staff of the licensee. There are 46 companies having 71 management units covering 100,476.4 square miles. The status of management plans for these units are as follows:

50—Approved Management Plans .....	78,291.3 sq. mi.
16—Submitted Management Plans Awaiting Approval .....	13,554.5 sq. mi.
5—With No Management Plans .....	8,630.6 sq. mi.

3. *Agreement Forest Units*—Plans for these forests are prepared by Department staff. There are 59 management units covering approximately 280.1 square miles. The status of management planning on these units is as follows:

1—Standard management plan approved .....	41.0 sq. mi.
18—Standard management plans completed and awaiting approval .....	75.9 sq. mi.
23—Standard management plans being prepared .....	147.5 sq. mi.
17—Annual plans only .....	15.7 sq. mi.

4. *Nursery Forest Units and Small Crown Units in Southern Ontario*—Plans prepared by Department staff. There are five small management units adjacent to the tree nurseries of Department Forest Stations and a number of small management units covering scattered Crown properties in Southern Ontario. Plans are being prepared.

Other work during the year included:

1. Co-operation in programming the Timber Certificate Course at the Forest Ranger School, and lecturing on management procedures.
2. A four-hour lecture on implementation of a management plan given at the Forest Ranger School within the general course curriculum.
3. Close liaison and co-operation with Fish and Wildlife Branch in the improvement of wildlife habitat by selected timber operations.
4. Examination of forest access road proposals regarding their conformity to the management plan.
5. Seminar given for the Diploma Course in Resource Management at the University of Toronto.

# FOREST ACCESS ROADS — CONSTRUCTED UNDER FEDERAL-PROVINCIAL AGREEMENT

Construction and improvement of approximately 200 miles of Forest Access Roads for purposes of management, protection and extraction of forest products from Crown Forest land was carried out during the fiscal year ending March 31, 1965.

Of the total mileage, 120.3 miles was new construction and 82.5 miles was the improvement of existing roads. The Federal Government participated in 111.3 miles of new construction and 55.5 miles of improvement under the Federal-Provincial Agreement.

The Department of Highways completed the construction of the Missinaibi-Dalton road in the Chapleau District in 1964/65, and started on the construction of the Alice-Petawawa road in the Pembroke District.

District	Management Unit	Road Name	New Construction (Miles)	Existing Road Improved (Miles)
Chapleau	Missinaibi	**Missinaibi-Dalton		8.0
	Missinaibi-Abitibi	Busby Calais	3.9	1.5
	Missinaibi	Racine	.8	
Cochrane	Timmins	Sheraton	4.0	
Geraldton		Sturgeon	Bridge Purchase	
Gogama	St. Lawrence	Limestone	5.5	
	Gogama	Jack-Carter	5.0	1.0
	Howard Smith	Marne Lake	4.5	
Kapuskasing	Kapuskasing	*McCowan	9.5	
	Northern	*Shannon		10.0
	Kapuskasing	Barker	Survey	
Kenora	Dryden	Temple	3.2	
Lindsay	Gooderham	Galway	2.1	
	Gooderham	Burleigh		3.0
North Bay	Nipissing	Bastedo	2.9	.6
	Jocko	Mulock	3.0	
	Mattawa	*Papineau	7.3	
Parry Sound	Georgian Bay	Blair	2.5	4.0
	Bracebridge	Oakley	.3	3.6
Pembroke	Petawawa	*Wylie Bronson		8.0
	Whitney	Mudville	2.5	
	Petawawa	Edgar Fitzgerald	3.8	
Sault Ste. Marie	Sand Lake	Mijin Lake	2.4	
	Kirkwood	Bailey	2.2	
	Huron Forest Pr.	Crain	1.5	
	Huron Forest Pr.	Esker		5.4
	Kirkwood	Franklin		2.0
	Kirkwood	*Footprint	Survey	
	Huron Forest Pr.	Rainbow		2.8
	Kirkwood	*Huston	2.0	
Sudbury	Spanish River	*Tennyson	2.9	
	Trout Lake	*Cox Township	3.4	
	Spanish River	Foster Curtin	3.3	
	Shebandowan	Hagey-Conacher	3.5	4.1
	Trout Lake	Cherriman	3.2	
Swastika	Larder Lake	Ingram	2.0	
	Kirkland Lake	McVittie-Pontiac	4.0	
	Larder Lake	Mulligan-Rattray	7.5	
	Englehart	Willison	2.5	
	Englehart	Burt		1.5
Tweed	Bancroft	Egan Cr. Access	4.7	
	Bancroft	Egan Cr. Access	5.4	
Sub Total			111.3	55.5

## CONSTRUCTED BY PROVINCE

Pembroke	Muskat	***Alice-Petawawa	6.0	
	Petawawa	Radiant-Bissett	3.0	
	Round Lake	Basin Depot		27.0
Sub Total			9.0	27.0
Total All Roads			120.3	82.5

*\*Capital Fund Logging Roads — summarized below*

*\*\*Construction carried out by Department of Highways at Lands and Forests expense.*

*\*\*\*Construction by Department of Highways with Highways and Lands and Forests sharing cost.*

Under the Capital Fund Logging Access Roads\* programme for the fiscal year ending March 31, 1965, 25.1 miles of new road were constructed and 18.0 miles of existing road were improved into areas of unalienated Crown forest land containing mature and over-mature timber.

Total mileage of Capital Roads constructed during the period 1955/56 to 1964/65 is as follows:

District	Management Unit	Road Name	Miles
Cochrane	Cochrane	Kennedy	7.0
Fort Frances	Rainy Lake	**Glenorchy	15.0
		Wassaw-Boffin	9.0
Kapuskasing	Hearst	Hearst M. U.	14.5
	Northern	Shannon	10.5
	Northern	McCowan	13.0
Kenora	Kenora	Gordon Lake	11.0
		**Jones	22.0
North Bay	Mattawa	Papineau	7.0
Pembroke	Petawawa	PMU Access Road	96.5
		Wylie-Bronson	13.0
	Round Lake	Basin Depot	27.0
	Whitney	Cameron Lake	8.0
Sault Ste. Marie	Kirkwood	Huston	2.0
Sudbury	Trout Lake	Cox Township	4.0
	Spanish River	Tennyson Township	2.0
Swastika	Englehart	EMU Access Road	41.0
		Davidson Township	6.0
	Total		308.5

*\*The funding of these roads is carried out by means of a special arrangement whereby the costs of construction are recovered in a five year period from the increased value of Crown stumpage due to access having been provided.*

*\*\*Part of construction*

NOTE: Funds for the maintenance of forest access roads are provided by the Lands and Surveys Branch.

To date all expenditures made on road construction under the terms of the Capital Road Fund have been paid back to the Fund from additional stumpage charges collected from the forest operators using these roads.

## Silvicultural Operations

The securing or establishing of regeneration on cutovers and burned areas, as well as improving the quality of existing stands, is the main task of this unit.

The available information, based on surveys carried out recently, indicates a requirement for an annual regeneration programme of approximately 225,000 acres.

For administrative and recording purposes, the work of the unit is carried out within the following groups:

A. Artificial Regeneration—covers activities concerned with carrying out the direct seeding and planting programmes.

B. Stand Improvement—includes the natural regeneration programme, and activities concerning tending of the existing stands.

C. Special Projects—include co-operative silvicultural activities involving the use of Junior Rangers and inmates from the Department of Reform Institutions, in either regeneration or stand improvement projects.

## SUMMARY OF AREA TREATED IN 1964-65

### A. *Regeneration Programme*

Planted .....	73,267 acres
Seeded .....	4,835 acres
Natural regeneration, treatments .....	22,960 acres

Sub-Total .....	101,062 acres
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### B. *Improvement Programme*

Various treatments .....	42,890 acres
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Total .....	143,952 acres
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The details of these programmes are shown in the following tables:

## Artificial Regeneration

### PLANTING

The number of trees planted on Crown Lands and Agreement Forests was increased considerably during the past year. This was brought about to some extent by the planting done by Kimberly-Clark and Spruce Falls Power & Paper Company in their Regeneration Agreement\*. Total planting over the last five years is as follows:

1960-61 .....	35,630,390
1961-62 .....	31,666,580
1962-63 .....	33,958,450
1963-64 .....	34,752,240
1964-65 .....	40,744,221

The planting programme, divided into the two major categories — Crown Lands and Agreement Forests — is shown below.

### CROWN LANDS

1. Unalienated — 13,536,010 trees planted on 19,055 acres.
2. Licensed — 22,779,866 trees planted on 47,322 acres.
3. Miscellaneous Crown land planting — 47,030 trees planted for ornamental, research and other purposes on 300 acres.



## AGREEMENT FORESTS

1. 4,381,315 trees planted on 6,590 acres.

There was a large increase in the amount of site preparation being done prior to planting. Approximately 3,000 acres were scarified for this purpose this year. There were also 8,000 acres prepared for planting or seeding next year.

The following table gives the ratio of species planted by categories.

\* *The difference in the number of trees planted on Crown Land with the number of trees furnished by the Department can be attributed to the number of trees produced in Company nurseries and planted on Crown Land.*

	CROWN LANDS		Crown Average	Agreement Forests
	Unalienated	Licensed		
White Pine Pinus strobus L. ....	22%	17%	19%	39%
Red Pine Pinus resinosa A.t. ....	12%	15%	14%	38%
Jack Pine Pinus banksiana Lamb. ....	18%	16%	17%	4%
White Spruce Picea glauca .....	40%	38%	39%	17%
Black Spruce Picea mariana .....	7%	13%	10%	
Other Species .....	1%	1%	1%	2%
	100%	100%	100%	100%

## PLANTING — CROWN LANDS

Administrative District	Trees	
Aylmer .....	178,490	
Chapleau .....	4,541,825	
Cochrane .....	2,107,400	
Fort Frances .....	1,511,400	
Geraldton .....	2,656,110	
Gogama .....	3,938,300	
Hespeler .....	41,540	
Kapuskasing .....	2,047,000	
Kemptville .....	87,795	
Kenora .....	463,600	
Lindsay .....	846,359	
Maple .....	61,475	
North Bay .....	957,800	
Parry Sound .....	639,380	
Pembroke .....	1,628,595	
Port Arthur .....	1,603,000	
Sault Ste. Marie .....	3,922,200	
Sioux Lookout .....	590,100	
Sudbury .....	2,528,720	
Swastika .....	1,950,057	
Tweed .....	1,034,000	
White River .....	384,000	33,719,146
Company planting under Regeneration Agreements on Crown Lands under licences		
Kimberly-Clark .....	1,444,800	
Spruce Falls .....	1,198,960	2,643,760
Sub Total Crown Lands		36,362,906

# PLANTING — AGREEMENT FORESTS

County :	Trees	
Bruce .....	54,900	
Carleton .....	110,000	
Dufferin .....	3,000	
Grey .....	29,950	
Halton .....	61,000	
Huron .....	25,095	
Kent .....	4,000	
Lanark .....	269,000	
Leeds & Grenville .....	265,200	
Lennox & Addington .....	3,600	
Middlesex .....	22,500	
Northumberland & Durham .....	110,000	
Ontario .....	4,800	
Oxford .....	11,000	
Prescott & Russell .....	240,125	
Renfrew .....	420,000	
Simcoe .....	398,245	
Stormont, Dundas & Glengarry .....	150,300	
Victoria .....	44,500	
Wellington .....	29,950	
York .....	29,400	
		2,286,565
<b>Townships:</b>		
Cramahe .....	10,000	
Cumberland .....	2,375	
Galway .....	43,500	
Machar .....	45,000	
Torbolton .....	20,000	
Williamsburg .....	20,000	
		140,875
<b>Conservation Authority:</b>		
Ausable .....	399,000	
Big Creek .....	32,500	
Catfish Creek .....	36,000	
Crowe River .....	24,750	
Ganaraska .....	128,000	
Grand Valley .....	63,900	
Maitland Valley .....	127,900	
Metropolitan Toronto and Region .....	19,300	
Moira River .....	226,650	
Napanee Valley .....	21,000	
Niagara Peninsula .....	20,000	
North Grey Region .....	87,250	
Sauble Valley .....	2,800	
Saugeen Valley .....	170,975	
South Nation .....	52,000	
		1,412,025
<b>Canada:</b>		
National Capital Commission .....	541,850	
		541,850
Subtotal—All Agreement Forests .....		4,381,315
Total—Crown and Agreement .....		40,744,221

## DIRECT SEEDING

The acreage covered by direct seeding across the Province continues to increase. The total acreage sown has risen from 3,789 acres during the 1963-64 season to 4,835 acres this season.

The most successful results are in the sowing of jack pine. Direct seeding has proved to be an inexpensive and convenient method of regenerating old cut-overs and burns, where the site is suitable for the production of jack pine.

During this season 2,678 acres were sown by helicopter and 2,157 acres were sown from the ground.

A tabular summary of planting and direct seeding projects follows:

Administrative District	Method	Ground Preparation		Acreage
Chapleau	Ground	Mechanical	Scarification	1,433
	Aerial	Mechanical	Scarification	400
Geraldton	Aerial	Mechanical	Scarification	392
Gogama	Ground	Mechanical	Scarification	315
	Aerial	Mechanical	Scarification	485
Parry Sound	Ground	Mechanical	Scarification	3
Port Arthur	Ground	Mechanical	Scarification	717
Pembroke	Ground	Mechanical	Scarification	132
Sioux Lookout	Ground	Logging		62
Sudbury	Ground	Mechanical	Scarification	212
White River	Aerial	Mechanical	Scarification	684
				4,835

## Stand Improvement

### CROWN LANDS

Under the regular stand improvement programme during the 1964-65 fiscal year 22,960 acres were treated to obtain natural regeneration; a further 31,575 acres received some form of tending to improve stand conditions. In addition four stand improvement surveys and eight regeneration surveys were carried out.

Silvicultural treatments were also conducted by the Junior Rangers (2,825 acres), and by inmates of the Department of Reform Institutions (1,132 acres).

Further developments in the mechanical design of scarification equipment, combined with increased knowledge regarding their proper application, has stimulated considerable interest among field officers attempting to regenerate otherwise unproductive areas. This interest is reflected in the increase in area scarified; during 1963-64 approximately 6,800 acres were scarified, while in 1964-65 over 9,300 acres received this treatment.

### STAND IMPROVEMENT PROGRAMME, 1964-65 Treatment by Districts — in Acres

District		Regular Programme	Junior* Rangers	Reform* Institutions	Total
Fort Frances	Scarifying with cone scattering	310			310
	Ground Herbicide spraying .....	175			175
	Sub-total .....	485			485
Kenora	Scarifying with cone scattering	1,293			1,293
	Assessment Survey (one) .....				
	Sub-total .....	1,293			1,293
Sioux Lookout	Scarifying with cone scattering	1,467			1,467
	Cleaning .....		166		166
	Sub-total .....	1,467	166		1,633
Port Arthur	Modified harvest cutting .....	138			138
	Scarifying with cone scattering	474			474
	Cleaning .....		87		87
	Sub-total .....	612	87		699

# Treatment by Districts — In Acres (Continued)

District		Regular Programme	Junior* Rangers	Reform* Institutions	Total
Geraldton	Scarifying with cone scattering	248			248
	Cleaning		4		4
	Aerial herbicide spraying	1,000			1,000
	Sub-total	1,248	4		1,252
White River	Scarifying with cone scattering	280			280
	Cleaning		6		6
	Regeneration survey (one)				
	Sub-total	280	6		286
Chapleau	Scarifying for natural regeneration	90			90
	Scarifying with cone scattering	105			105
	Cleaning	913	86		999
	Regeneration survey (one)				
	Assessment survey (one)				
	Sub-total	1,108	86		1,194
Gogama	Aerial herbicide spraying	2,000			2,000
	Cleaning		246		246
	Sub-total	2,000	246		2,246
Sault Ste. Marie	Modified harvest cutting	234			234
	Seed-tree marking	1,128			1,128
	Scarification for natural regeneration	205			205
	Cleaning	1,271	1,032		2,303
	Thinning		10		10
	Pruning	18	78	182	278
	Improvement cutting	20			20
	Girdling	432			432
	Frilling and poisoning	65			65
	Improvement marking	261			261
	Deer habitat improvement	22			22
	Regeneration survey (three)				
	Assessment Survey (one)				
	Sub-total	3,656	1,120	182	4,958
Sudbury	Scarifying for natural regeneration	27			27
	Scarifying with cone scattering	170			170
	Improvement cutting	104		950	1,054
	Pruning	35			35
	Cleaning		2		2
	Sub-total	336	2	950	1,288
Kapuskasing	Aerial herbicide spraying	4,597			4,597
	Cleaning		141		141
	Thinning		7		7
	Assessment survey (one)				
	Regeneration survey (two)				
	Sub-total	4,597	148		4,745
Cochrane	Modified harvest cutting	31			31
	Scarifying with cone scattering	48			48
	Cleaning		67		67
	Sub-total	79	67		146
Swastika	Scarifying with cone scattering	1,134			1,134
	Cleaning		160		160
	Sub-total	1,134	160		1,294



District		Regular Programme	Junior* Rangers	Reform* Institutions	Total
North Bay	Modified harvest .....	310			310
	Seed tree marking .....	11,463			11,463
	Scarifying for natural regeneration .....	1,227			1,227
	Cleaning .....	200	7		207
	Aerial herbicide spraying .....	490			490
	Regeneration survey (one) .....				
	Sub-total .....	13,690	7		13,697
Parry Sound	Modified harvest cutting .....	40			40
	Scarifying for natural regeneration .....	1,134			1,134
	Girdling .....	700			700
	Frilling and poisoning .....	934			934
	Thinning .....	15	12		27
	Improvement marking .....	2,373			2,373
	Deer habitat improvement .....	2,115			2,115
	Cleaning .....		405		405
	Sub-total .....	7,311	417		7,728
Pembroke	Modified harvest cutting .....	3			3
	Scarifying for natural regeneration .....	140			140
	Cleaning .....	690	309		999
	Aerial herbicide spraying .....	466			466
	Frilling and poisoning .....	234			234
	Pruning .....	405			405
	Sub-total .....	1,938	309		2,247
Kemptville	Thinning .....	400			400
	Improvement marking .....	204			204
	Sub-total .....	604			604
Tweed	Modified harvest cutting .....	291			291
	Cleaning .....	478			478
	Thinning .....	40			40
	Frilling and poisoning .....	313			313
	Improvement marking .....	3,618			3,618
	Pruning .....	338			338
	Sub-total .....	5,078			5,078
Lindsay	Scarifying for natural regeneration .....	970			970
	Cleaning .....	983			983
	Girdling .....	2,296			2,296
	Thinning .....	240			240
	Pruning .....	2,493			2,493
	Deer habitat improvement .....	326			326
	Sub-total .....	7,308			7,308
Lake Simcoe	Cleaning .....	292			292
	Thinning .....	4			4
	Sub-total .....	296			296
Lake Erie	Thinning .....	15			15
	Sub-total .....	15			15
Totals .....		54,535	2,825	1,132	58,492

\* The work listed under these headings is discussed briefly under  
C — Special Projects — later in the report.

# SUMMARY BY TREATMENTS, 1964-65

## Stand Improvement Programme (Acres of Crown Lands)

Treatment	Regular Programme	Junior Rangers	Reform Institutions	Total
<b>Natural Regeneration</b>				
Modified harvest cutting .....	1,047			1,047
Seed tree marking .....	12,591			12,591
Scarifying for natural regeneration .....	3,793			3,793
Scarifying with cone scattering .....	5,529			5,529
Sub-total, Natural Regeneration .....	22,960			22,960
<b>Forest Tending</b>				
Release treatments:				
Hand cleaning .....	4,827	2,718		7,545
Aerial herbicide spraying .....	8,553			8,553
Ground herbicide spraying .....	175			175
Thinning and Improvement Treatments:				
Cutting .....	838	29	950	1,817
Girdling .....	3,428			3,428
Frilling and poisoning .....	1,546			1,546
Marking for improvement .....	6,456			6,456
Pruning .....	3,289	78	182	3,549
Deer habitat improvement .....	2,463			2,463
Sub-total, Forest Tending .....	31,575	2,825	1,132	35,532
Grand Total .....	54,535	2,825	1,132	58,492
Assessment Survey (four)				
Regeneration Survey (eight)				

## AGREEMENT FORESTS

Agreement Forests are those lands which are managed by the Department on behalf of a County, Township, or Conservation Authority.

Normal thinning, improvement, and salvage operation in the Agreement Forests produced an estimated \$135,000 in revenue.

In order to increase productivity of these forests, and to provide local employment, the following activities were carried out in Agreement Forests in different districts.

AGREEMENT FORESTS, 1964-65

Summary by Treatment (Acres)

Lake Erie	Regular Programme	Reform Institutions	Acres
Harvest cutting .....	45		45
Improvement cutting .....	190		190
Improvement marking .....	225		225
Frilling and poisoning .....	85		85
Cleaning .....	25		25
Sub-total .....	570		570
<b>Lake Huron</b>			
Improvement cutting .....	11		11
Thinning .....	50		50
Pruning .....	311		311
Cleaning .....	177		177
Ground herbicide spraying .....	9		9
Frilling and poisoning .....	617		617
Girdling .....	25		25
Weed control .....	202		202
Sub-total .....	1,402		1,402
<b>Lake Simcoe</b>			
Harvest cutting .....	304	90	394
Thinning .....	503	3	506
Pruning .....	536	13	549
Improvement marking .....	104		104
Girdling .....	160		160
Cleaning .....	203	213	416
Sub-total .....	1,810	319	2,129
<b>Lindsay</b>			
Harvest cutting .....	158	30	188
Thinning .....	237	8	245
Pruning .....	508		508
Improvement marking .....	182		182
Ground herbicide spraying .....	27		27
Girdling .....	181		181
Cleaning .....	210	74	284
Sub-total .....	1,503	112	1,615
<b>Pembroke</b>			
Improvement cutting .....	10		10
Sub-total .....	10		10
<b>Kemptville</b>			
Harvest cutting .....	1		1
Improvement cutting .....	144		144
Pruning .....	174		174
Cleaning .....	359		359
Ground herbicide spray .....	287		287
Improvement marking .....	15		15
Girdling .....	155		155
Thinning .....	100		100
Sub-total .....	1,235		1,235
GRAND TOTAL .....	6,530	431	6,961

## Summary by Treatments

### ALL DISTRICTS IN ACRES

Treatment	Regular Programme	Reform Institutions	Total
Harvest cutting .....	508	120	628
Forest Tending:			
Release treatments:			
Cleaning .....	974	287	1,261
Ground herbicide spraying .....	323		323
Weed control .....	202		202
Thinning and Improvement Treatments:			
Cutting .....	1,245	11	1,256
Girdling .....	521		521
Frilling and poisoning .....	702		702
Improvement marking .....	526		526
Pruning .....	1,529	13	1,542
Totals .....	6,530	431	6,961

### NURSERY FORESTS

#### Summary by Treatments (Acres)

Stand Improvement work was carried out at three of the four southern nursery forests during 1964-65. Stand Improvement work is conducted on these forests during winter months when activity in nursery stock production is at a minimum.

Treatment	Lake Erie St. Williams	Lake Simcoe Midhurst	Kemptville G.H. Ferguson	Total
Thinning .....	72	13		85
Cleaning .....			14	14
Pruning .....	12	87	18	117
Improvement cutting .....	178		3	181
Totals .....	262	100	35	397

## Special Projects

### DEPARTMENT OF REFORM INSTITUTIONS

During the year 1964-65 the Ontario Department of Reform Institutions, through their forestry camp programme, has provided more than 14,000 man-days of labour for forest improvement. They have also cut firewood, maintained buildings, and otherwise provided for themselves at low cost in the four camps. These camps are located at McCreight's Dam, near Thessalon; Hillsdale and Hendrie Forest in Simcoe County, north of Barrie; and at Coldsprings in the Ganaraska Forest.

### JUNIOR RANGERS

The 1,600 Junior Rangers have done a good deal of work in improving forest stands, as well as in caring for parks, roads, buildings, and docks. As these youths are available for only a two-month period with no previous working experience and little background of woods work, they must be given instruction and very careful supervision when working on forest improvement.



FEDERAL DEPARTMENT OF JUSTICE

Through the Beaver Creek Correctional Camp near Bracebridge, the Penitentiary Service has supplied inmates to do clearing for roads; fire-fighting and forest improvement work, at little cost to this Department.

TIMBER SECTION

Forest Industry Development

PULP AND PAPER

The year ending March 31, 1965, has witnessed some of the most significant expansions in Ontario's pulp and paper industry that have taken place since World War II. The conversion of the Abitibi Power and Paper Company's Smooth Rock Falls mill from a sulphite to a sulphate process was initiated during this period and will ultimately result in an increase in wood consumption from 90,000 to 160,000 cords annually. In addition, investments totalling more than \$125,000,000.00 in new projects were announced by Domtar, Great Lakes Paper, K V P, Provincial Paper, Spruce Falls Power and Paper, Dryden Paper, Abitibi, and Bathurst Containers Ltd. As well as strengthening the competitive position of Ontario's pulp and paper industry, these expansions, when completed, will result in an increased pulp capacity of about one half million tons per year and will require between three-quarters of a million and one million cords of additional pulpwood annually.

MAJOR PULP AND PAPER EXPANSIONS

Name	Project	Capital Investment Million \$	Estimated Additional Wood Requirement
Abitibi Power & Paper Co. Ltd., Smooth Rock Falls, Ontario	Conversion from sulphite to sulphate .....	13.5	70,000 cords
Domtar Newsprint Ltd., Red Rock, Ontario	Sulphate Expansion .....	14.5	200,000 cords
Domtar Pulp & Paper Co. Ltd., Cornwall, Ontario	New Paper Machine .....	10.0	
Great Lakes Paper Co. Ltd., Fort William, Ontario	New Pulp Mill .....	31.0	340,000 cords
K V P Company Ltd., Espanola, Ontario	Sulphate Expansion .....	20.0	200,000 cords
Provincial Paper Co. Ltd., Port Arthur, Ontario	New Paper Machine .....	8.0	
Spruce Falls Power & Paper Co. Ltd., Kapuskasing, Ontario	New Newsprint Machine .....	20.0	50,000 cords
Dryden Paper Co. Ltd., Dryden, Ontario	New Drying Capacity .....	5.0	25,000 cords
Pembroke Shook Mills, Toronto (Abitibi subsidiary)	New Cardboard Box Plant .....	3.0	
Bathurst Containers Ltd., St. Thomas, Ontario	New Cardboard Box Plant .....	3.0	
	Totals .....	128.0	885,000 cords

## PLYWOOD AND PARTICLEBOARD

In addition to the high level of expansion in our pulp and paper industry, a similar prosperity has been enjoyed by Ontario's plywood and particleboard industries. Undaunted by disastrous fires to three of our largest poplar plywood plants: Cochrane Enterprises Ltd., Cochrane; A & L Plywood Products Ltd., Chapleau; and Levesque Plywoods Ltd., Hearst (all of which are being rebuilt on an expanded basis) this remarkable young industry is supplying an ever increasing share of the plywood required in construction projects in eastern Canada. The entry into this field of Weldwood of Canada, a subsidiary of the giant U.S. Plywood Corp., promises to give this new industry even greater stability. Weldwood is building a new \$2 million plywood mill at Longlac to utilize 25,000 cords of poplar and produce 45 million sq. ft. of plywood ( $\frac{1}{4}$  in. basis). With this and other mills operating at full production, Ontario's poplar plywood industry will require 130,000 cords of wood annually and will have the capacity to manufacture 236 million sq. ft. of plywood ( $\frac{1}{4}$  in. basis) per year.

Rexwood Products Ltd., New Liskeard, one of Ontario's largest particleboard manufacturers is currently doubling production and will ultimately use about 36,000 cords of wood annually.

## LUMBER AND DIMENSION

Significant strides have also been made in the development of Ontario's lumber industry. Of particular importance has been the continued increase in the use of sawmill residues to manufacture pulp chips. The equivalent of 325,000 cords of pulpwood were produced as a by-product of the sawmilling industry in 1964 — an increase of 23% over the year previous and there is every indication that this trend will continue. This volume of chips is enough to supply a large pulpmill with its full wood requirements.

With the prospects of a continued high demand for new housing and summer cottages throughout North America and with the rapid acceptance of our type of housing in Europe, the outlook prospects for increased lumber production in Ontario has not been brighter since the days of the early white pine lumber industry. It is expected that the bulk of any increased production will be in the form of 2 X 4's manufactured from small diameter spruce and jack pine logs. According to mill licence returns, Ontario's lumber industry produced more than 779 million board feet during 1964.

While the prosperity of our softwood lumber industry is on the upswing, our hardwood lumber industry is experiencing difficulty in providing the furniture and other secondary wood using industries with the volume of high quality lumber that they would like. The establishment of hardwood dimension plants which can produce high quality wood parts from the clear sections of poor quality logs shows promise of relieving this situation.

## SUMMARY OF VOLUME AND VALUE OF WOOD CUT BY SPECIES 1963-64

The high level of industrial activity, particularly within the lumber industry, is reflected in the volume of wood cut from Crown land the year ending March 31, 1964. Approximately 360 million cubic feet were cut with a value of \$12.5 million which represents an increase of 14.3 million cubic feet and \$450,000 in revenue over the previous year. The most substantial increase took place in the Kapuskasing District where there was an increase of 13.9 million cubic feet in the volume of sawlogs cut.

	Species	Cubic Feet	Stumpage Value
<b>Softwood</b>			
	Balsam .....	10,218,739.13	\$ 213,316.71
	Cedar .....	182,274.01	7,926.75
	Hemlock .....	3,031,960.31	77,752.37
	Pine, Jack .....	82,239,438.92	2,265,990.42
	Pine, Red .....	6,445,914.44	376,334.27
	Pine, White .....	24,409,148.86	1,325,666.06
	Spruce .....	183,756,306.23	6,822,602.92
	Tamarack .....	27,815.89	631.76
	Christmas Trees .....	783.00	96.10
	Fuelwood .....	452,127.75	3,189.04
		310,764,508.54	\$11,093,506.40
<b>Hardwood</b>			
	Ash .....	95,466.73	\$ 3,034.21
	Bass-wood .....	575,108.40	32,102.68
	Beech .....	482,501.81	9,445.44
	Birch, White .....	3,732,116.06	55,594.08
	Birch, Yellow .....	8,963,386.63	685,206.96
	Butternut .....	2,165.05	81.09
	Cherry .....	22,135.33	826.15
	Elm .....	266,981.68	9,646.94
	Maple .....	7,649,034.82	309,839.53
	Oak .....	354,928.71	16,644.06
	Poplar .....	25,995,078.61	248,507.37
	Fuelwood .....	1,161,594.70	8,614.89
		49,300,498.61	\$ 1,379,543.40
Total all species .....		360,065,007.15	\$12,473,049.80
<i>Note: Value of export levy not included in above figures.</i>			

## SALE OF TIMBER

### Crown Timber Sales 1964-65

New Licences issued under section 2	C.T.A.	220.60	square miles
New Licences issued under section 3	C.T.A.	5,386.10	"
New Licences issued under section 5	C.T.A.	4.40	"

Total 5,611.10 square miles

### Abandonments

In the fiscal year 1964-65, licenced areas in the amount of 1,948.31 square miles were abandoned.

## SUMMARY OF AREA UNDER CROWN TIMBER LICENCE AS OF MARCH 31, 1965

Year	Area in Square Miles			Total Area
	Licences under Section 2 C.T.A.	Licences under Section 3 C.T.A.	Licences under Section 5 C.T.A.	
1960-61	3,647.71	99,103.39	137.79	102,888.89
1961-62	3,563.07	99,347.87	154.26	103,065.20
1962-63	3,102.08	97,830.82	152.36	101,085.26
1963-64	2,556.89	99,679.49	18.20	102,254.58
1964-65	2,564.98	103,347.49	4.90	105,917.37

## MARKETING AND FOREST ECONOMICS

During the past year, numerous forest resource studies were carried out for prospective new industry interested in establishing in specific Ontario localities. Inquiries regarding poplar for the manufacture of plywood and/or particleboard remained high and interest in possible pulp mill opportunities increased sharply.

In co-operation with the Ontario Department of Economics and Development and the Canada Department of Industry, the promotion of new forest based industries was intensified.

In order to become better informed of the rapidly changing supply and demand situation for wood products throughout the world and to interpret the effect of these changes for Ontario, greater emphasis has been placed on the maintenance of pertinent statistical information. The importance of Ontario's hardwood resource has received particular attention and the raw material requirements of our secondary wood using industries is currently under study.

Linear programming, a mathematical technique for solving problems made possible with the advent of computers, appears to have some application in solving certain forestry problems and a project is currently being considered which would determine possible applications of this technique.

LICENSING OF MILLS

While there was little change in the number of mills operating in Ontario during 1964, the trend to larger sawmills, which has been evident since the early 1950's, continued. The mills licensed under the Crown Timber Act were as follows:

Sawmills Daily Capacity in excess of 50,000 fbm .....	33
Daily Capacity 10,000 fbm to 50,000 fbm .....	132
Daily Capacity less than 10,000 fbm .....	714
Specialty Mills (chiefly railway tie and bolt mills) .....	97
Veneer Mills .....	28
Pulp Mills .....	26
<hr/>	
Total .....	1,030

SCALING

Within the past few years, the logging industry has started a program of mechanized harvesting of wood, with new machines and logging techniques being introduced every year. This inevitably creates problems in the measurement of wood by conventional methods and changes in scaling technique have been devised in order to keep pace with the changing logging methods. Several studies of new concepts in wood measurement which it is hoped will prove accurate, practical and economical are currently under way.

Scaling examinations during the past year were held at the following locations on the dates noted:

Forest Ranger School, Dorset, Ontario	April	10th, 1964
Forest Ranger School, Dorset, Ontario	May	15th, 1964
Sault Ste. Marie, Ontario	September	25th, 1964

NUMBER OF SCALER'S LICENSES ISSUED

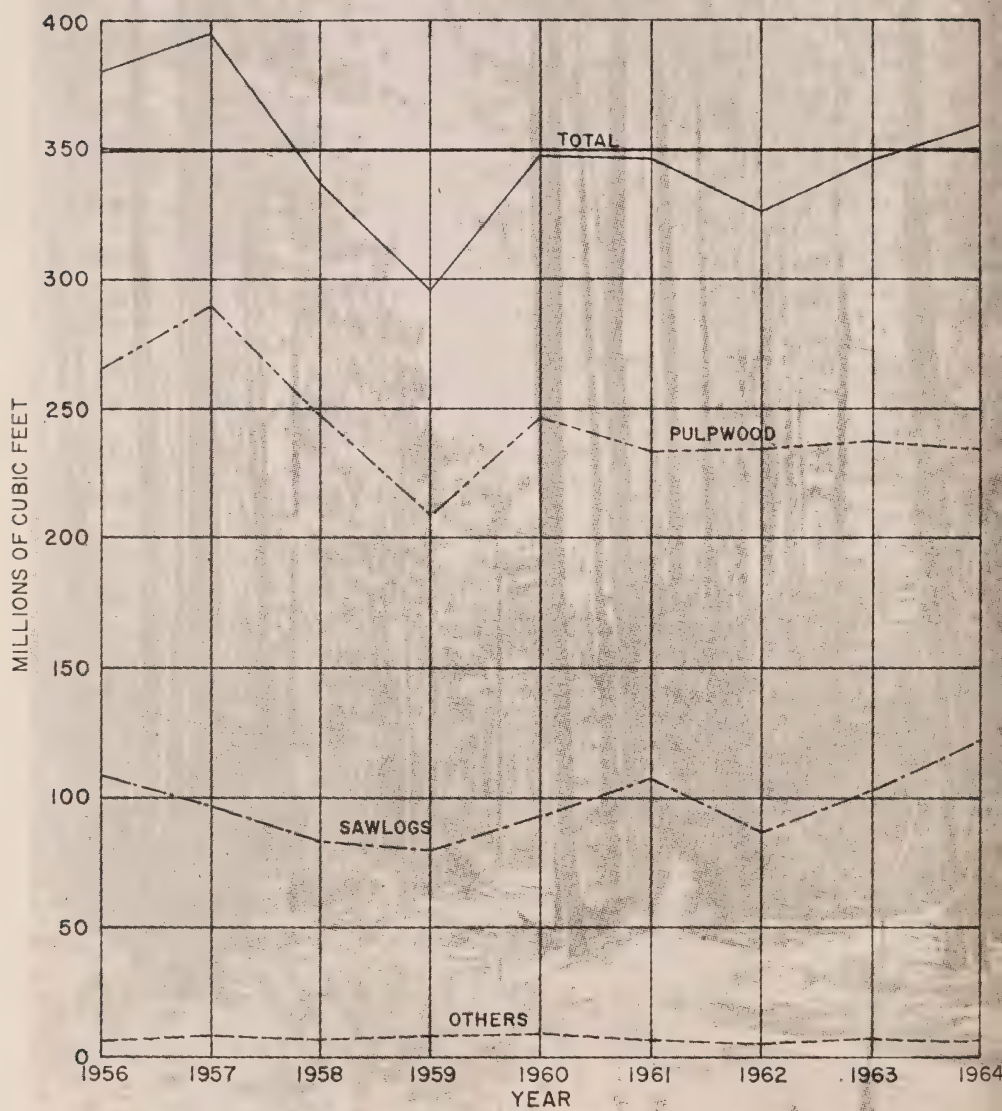
To scale All Classes of Timber .....	1,453
To scale Pulpwood only .....	185



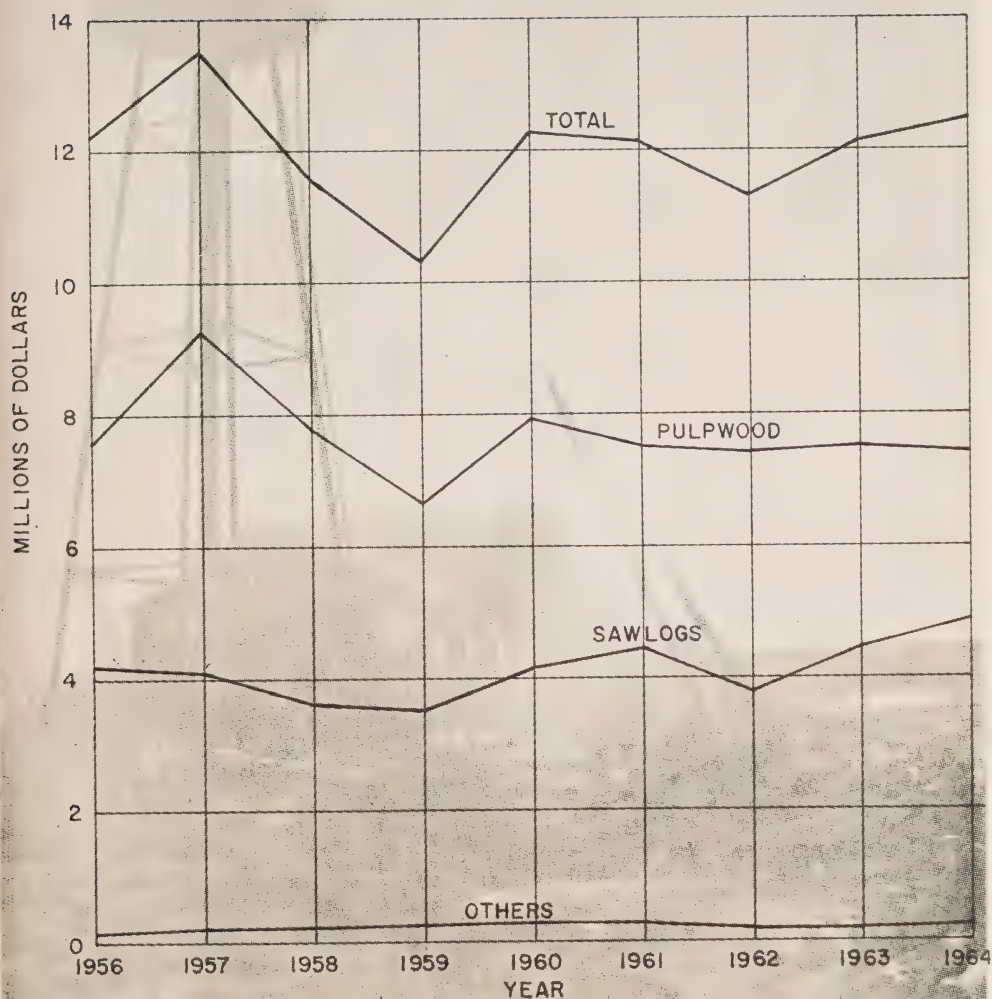
# SUMMARY OF VOLUME AND VALUE OF WOOD CUT FROM AGREEMENT FORESTS

	1964-65		1963-64		1962-63	
	Volume	Value	Volume	Value	Volume	Value
Pulpwood (cords)	13,389.46	\$ 69,035.29	14,188.18	\$ 51,229.63	12,410.63	\$54,031.52
Sawlogs (cu. ft.)	113,137.87	23,837.43	87,259.53	13,796.66	57,644.72	9,516.30
Poles, Posts, Piling (cu. ft.)	120,342.38	23,202.09	53,880.97	23,850.92	34,427.67	6,822.08
Fuelwood (cords)	4,126.91	17,277.29	1,124.44	8,710.77	2,175.15	11,621.46
Christmas Trees (No.)	340	515.54	11,260.00	8,747.37	8,796.00	7,186.28
Miscellaneous	—	7,525.30	—	3,579.37	—	569.41
Total All Products	1,722,371.70*	\$141,392.94	1,442,713.20*	\$109,914.72	1,331,863.69*	\$91,611.04
*Equivalent Cu. Ft.						

# VOLUME OF WOOD CUT FROM CROWN LAND



# STUMPAGE REVENUE FOR WOOD CUT FROM CROWN LAND



# SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	5,489		319,179	59,659.63	\$ 1,596.09	\$ 1,055.21	\$ 2,651.30
Balsam	42,564		900,122	168,247.10	3,600.48	3,239.34	6,839.82
Basswood	47,588		3,048,399	569,794.20	15,242.23	16,814.10	32,056.33
Beech	32,245		1,940,209	362,655.89	8,590.24	5,436.05	8,346.35
Birch, White	131,770		5,726,800	1,070,429.90	8,590.24	20,472.28	29,062.52
Birch, Yellow	604,916		47,862,438	8,946,250.05	239,312.51	445,699.86	685,012.37
Butternut	90		11,583	2,165.05	17.38	63.71	81.09
Cedar	13,472		282,372	52,779.81	847.19	977.32	1,824.51
Cherry	1,844		118,424	22,135.33	592.19	233.96	826.15
Elm	12,155		1,238,121	231,424.48	6,190.82	3,139.91	9,330.73
Hemlock	186,247		14,261,853	2,665,766.90	42,785.64	27,262.74	70,048.38
Maple	495,026		39,560,039	7,394,399.78	197,800.55	109,930.26	307,730.81
Oak	30,982		1,836,918	343,349.16	9,184.77	7,365.70	16,550.47
Pine, Jack	1,847,850		46,855,463	8,758,030.43	187,421.86	30,562.02	217,983.88
Pine, Red	400,094		27,857,039	5,206,923.16	139,285.53	129,965.83	269,251.36
Pine, White	1,374,569		125,110,791	23,385,194.47	625,554.53	642,022.97	1,267,577.50
Poplar	176,195		8,504,208	1,589,571.58	12,756.34	17,554.37	30,310.71
Spruce	1,074,974		25,758,979	4,814,762.41	103,035.99	75,532.32	178,568.31
Tamarack	699		21,021	3,929.16	63.07	75.51	138.58
Total Ontario Scale	6,478,769		351,213,958	65,647,468.49	1,596,787.71	1,537,403.46	3,134,191.17
<b>Cubic Foot Measure</b>							
<b>Sawlogs</b>							
Balsam	466,256		1,615,507.87	1,615,507.87	27,064.80	2,871.40	29,936.20
Birch, White	570,482		1,163,082.04	1,163,082.04	6,976.29	3,364.29	10,340.58
Birch, Yellow	42		495.93	495.93	2.98	1.98	4.96
Cedar	1,728		20,395.69	20,395.69	336.00	160.76	496.76
Pine, Jack	4,010,426		22,144,138.26	22,144,138.26	522,530.55	203,266.79	725,797.34
Pine, Red	76,901		517,662.39	517,662.39	17,105.86	11,864.78	28,970.64
Pine, White	94,234		882,103.08	882,103.08	29,118.57	24,516.46	53,635.03
Poplar	1,153,716		5,418,234.61	5,418,234.61	32,402.27	13,392.24	45,794.51
Spruce	5,797,479		24,606,001.35	24,606,001.35	817,268.62	101,974.96	919,243.58
Tamarack	118		445.23	445.23	7.23	8.09	15.32
Total Sawlogs	12,171,376		56,368,066.45	56,368,066.45	1,452,813.17	361,421.75	1,814,234.92



# Boom Timber, Piling, Poles Boom and Dimension Timber

Balsam	339	1,501.26	1,501.26	45.56	15.65	61.21
Birch, White	32	153.32	153.32	4.60	1.53	6.13
Cedar	1,907	29,661.29	29,661.29	609.82	69.99	679.81
Hemlock	515	8,786.18	8,786.18	449.53	71.06	520.59
Pine, Jack	883	13,179.66	13,179.66	580.16	77.45	657.61
Pine, Red	821	16,207.46	16,207.46	751.42	551.43	1,302.85
Pine, White	617	13,856.20	13,856.20	645.80	355.07	1,000.87
Spruce	15,719	211,629.41	211,629.41	9,316.98	1,057.28	10,374.26
<b>Piling</b>						
Pine, Jack	318	2,573.71	2,573.71	65.41	4.71	70.12
Poplar	12	375.25	375.25	21.05	3.76	24.81
Spruce	600	14,521.86	14,521.86	478.00	51.60	529.60
<b>Poles</b>						
Balsam	28	449.35	449.35	14.47	1.99	16.46
Beech	93	1,219.92	1,219.92	49.31	12.21	61.52
Birch, White	1	5.35	5.35	.16	.05	.21
Birch, Yellow	10	222.90	222.90	10.94	6.68	17.62
Cedar	1,108	13,046.92	13,046.92	566.75	265.69	832.44
Hemlock	591	17,705.58	17,705.58	965.04	87.70	1,032.74
Maple	10	257.24	257.24	13.26	7.72	20.98
Pine, Jack	35,800	552,362.39	552,362.39	23,704.51	9,685.91	33,390.42
Pine, Red	24,309	581,692.93	581,692.93	29,399.72	38,411.90	67,811.62
Pine, White	174	7,199.91	7,199.91	416.04	92.85	508.89
Poplar	272	3,225.28	3,225.28	127.91	43.10	171.01
Spruce	1,915	34,146.01	34,146.01	1,755.26	645.29	2,400.55
Tamarack	31	500.00	500.00	15.00		15.00
Total Boom Timber, Piling, Poles	86,105	1,524,479.38	1,524,479.38	70,006.70	51,520.62	121,527.32
Total Cubic Foot Measure	12,257,481	57,892,545.83	57,892,545.83	1,522,819.87	412,942.37	1,935,762.24

## Cordage

<b>Pulpwood</b>						
Ash		421.26		210.71	172.20	382.91
Balsam		99,207.92		139,117.65	37,335.25	176,452.90
Balsam (export levy)	(	526.26)	(		526.26	526.26
Basswood		62.52		31.26	15.09	46.35
Beech		1,395.60		697.83	339.74	1,037.57
Birch, White		15,811.95		7,906.05	6,153.43	14,059.48
Birch, Yellow		193.15		96.59	75.42	172.01
Elm		418.32		209.17	107.04	316.21
Hemlock		3,996.49		5,595.09	535.57	6,130.66

# SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
Maple		2,992.68		254,377.80	\$ 1,496.35	\$ 591.39	\$ 2,087.74
Oak		136.23		11,579.55	68.11	25.48	93.59
Pine, Jack		588,066.07		49,985,615.95	1,186,991.48	80,460.85	1,267,452.33
Pine, Jack (export levy)	(	35,033.08)		( 2,977,811.80)		17,449.82	17,449.82
Pine, Red		1,451.35		123,364.75		6,962.74	8,994.61
Pine, White		1,420.21		120,717.85	2,031.87	949.79	2,939.70
Poplar		194,844.78		16,561,806.30	1,989.91	45,657.17	142,109.63
Poplar (export levy)	(	5,551.44)		( 471,872.40)		1,401.49	1,401.49
Spruce		1,810,511.46		153,893,474.10	5,041,234.91	662,018.41	5,703,253.32
Spruce (export levy)	(	14,080.80)		( 1,196,868.00)		14,080.80	14,080.80
Tamarack		257.46		21,884.10	360.43	49.56	409.99
Total Pulpwood		2,721,187.45		231,300,933.25	6,484,489.87	874,907.50	7,359,397.37
<b>Fuelwood</b>							
Hardwood		13,665.82		1,161,594.70	6,832.93	1,781.96	8,614.89
Softwood		5,319.15		452,127.75	2,659.63	529.41	3,189.04
Total Fuelwood		18,984.97		1,613,722.45	9,492.56	2,311.37	11,803.93
<b>Bolts</b>							
Birch, White		1,816.73		154,422.05	908.39		
Poplar		28,474.95		2,420,370.75	14,237.56	1,216.63	2,125.02
Poplar (export levy)	(	442.79)		( 37,637.15)		15,806.00	30,043.56
Total Bolts		30,291.68		2,574,792.80	15,145.95	17,066.91	32,212.86
Total Cordage		2,770,464.10		235,489,448.50	6,509,128.38	894,285.78	7,403,414.16
<b>Miscellaneous</b>							
Posts — lin. ft.							
Cedar							
Pine, Jack	38,747		305,372	61,074.40	3,053.72	914.43	3,968.15
Spruce	2,500		16,885	3,377.00	168.85	110.37	279.22
Tamarack	1,872		17,760	3,552.00	177.60	75.50	253.10
	622		5,287	1,057.40	52.87		52.87
<b>Mining Timber — cu. ft.</b>							
Cedar	442		5,315.90	5,315.90	87.56	37.52	125.08
Pine, Jack	185,449		386,264.46	386,264.46	9,403.65	816.80	10,220.45
Pine, Red	05		63.75	63.75	1.05	2.14	3.19
Pine, White	04		54.40	54.40	.90	1.82	2.72
Poplar	2,122		1,494.92	1,494.92	28.76	21.38	53.14

Spruce	81,389	176,597.29	176,597.29	6,800.90	1,099.32	7,900.22
<b>Tie Blocks — cu. ft.</b>						
Balsam	30	360.35	360.35	6.59	3.53	10.12
Birch, White	1	7.65	7.65	.05	.09	.14
Pine, Jack	101,931	393,897.06	393,897.06	9,266.37	872.68	10,139.05
Pine, White	2	22.95	22.95	.38	.97	1.35
Spruce	94	1,122.00	1,122.00	36.96	22.44	59.40
<b>Car Stakes — cu. ft.</b>						
Spruce	389	499.80	499.80	16.46	4.12	20.58
Christmas Trees	1,566		783.00	93.35	2.75	96.10
Total Miscellaneous	417,165		1,035,544.33	29,196.02	3,988.86	33,184.88
Total Ontario Scale	6,478,769	351,212.958	65,647,468.49	1,596,787.71	1,537,403.46	3,134,191.17
Total Cubic Foot Measure	12,257,481	57,892,545.83	57,892,545.83	1,522,819.87	412,942.37	1,935,762.24
Total Cordage		2,770,464.10	235,489,448.50	6,509,128.38	894,285.78	7,403,414.16
Grand Total	19,153,415	2,770,464.10	360,065,007.15	9,657,931.98	2,848,620.47	12,506,552.45
Number of permits issued and included in above—						
Conversion factor—Ontario Scale to cubic foot measure—			4.392			
Conversion factor—Cordage to cubic foot measure—			85			
Grand Total						918,617.70

# CHAPLEAU

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Pine, jack	61,901		1,858,534	347,389.53	7,434.14	929.27	8,363.41
Pine, red	555		53,808	10,057.57	269.05	56.42	325.47
Pine, white	56,297		5,031,370	940,442.99	25,156.85	5,149.20	30,306.05
Spruce	2,206		98,563	18,422.99	394.25	91.87	486.12
Total Ontario Scale	120,959		7,042,275	1,316,313.08	33,254.29	6,226.76	39,481.05
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	4,715		25,481.45	25,481.45	420.43	137.89	558.32
Birch, white	7,339		40,707.84	40,707.84	244.25	241.65	485.90
Cedar	91		1,087.15	1,087.15	17.91		17.91
Pine, jack	1,271,498		6,560,157.81	6,560,157.81	154,201.65	26,045.91	180,247.56
Pine, white	842		4,395.90	4,395.90	145.07	112.82	257.89
Poplar	81,378		448,487.80	448,487.80	2,690.93	2,458.14	5,149.07
Spruce	323,463		1,923,975.35	1,923,975.35	63,485.07	6,439.31	69,924.38
Total saw-logs	1,689,326		9,004,293.30	9,004,293.30	221,205.31	35,435.72	256,641.03
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Pine, jack	213		6,213.80	6,213.80	335.51	62.13	397.64
Spruce	16		540.48	540.48	30.85	5.41	36.26
<b>Poles</b>							
Cedar	65		951.05	951.05	47.97	28.53	76.50
Pine, jack	489		7,062.31	7,062.31	360.43	34.14	394.57
Total boom timber, piling, poles	783		14,767.64	14,767.64	774.76	130.21	904.97
Total cubic foot measure	1,690,109		9,019,060.94	9,019,060.94	221,980.07	35,565.93	257,546.00



Cordage

<b>Pulpwood</b> —					
Balsam	460.27	39,122.95	643.68	16.30	659.98
Birch, white	374.34	31,818.90	187.18		187.18
Maple	20.72	1,761.20	10.36		10.36
Pine, jack	48,269.43	4,102,901.55	96,258.62	821.77	97,080.39
Poplar	14,318.07	1,217,035.95	7,159.04		7,159.04
Spruce	35,248.57	2,996,128.45	98,530.05	2,989.02	101,519.07
Tamarack	.32	27.20	.45	.02	.47
Total pulpwood	98,691.72	8,388,796.20	202,789.38	3,827.11	206,616.49
<b>Fuelwood</b> —					
Hardwood	229.87	19,538.95	114.94	114.00	228.94
Softwood	278.68	23,687.80	139.34	122.00	261.34
Total fuelwood	508.55	43,226.75	254.28	236.00	490.28
Total cordage	99,200.27	8,432,022.95	203,043.66	4,063.11	207,106.77
Total Ontario Scale	120,959	7,042,275	33,254.29	6,226.76	39,481.05
Total Cubic Foot Measure	1,690,109	9,019,060.94	221,980.07	35,565.93	257,546.00
Grand Total	1,811,068	18,767,396.97	458,278.02	45,855.80	504,133.82

Number of permits issued and included in above — 98  
Conversion factor — Ontario scale to cubic foot measure — 5.35  
Conversion factor — cordage to cubic foot measure — 85

7,101.12

COCHRANE

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Balsam	79		1,272	237.76	5.09	3.31	8.40
Birch, white	3,192		142,702	26,673.27	214.05	78.98	293.03
Pine, jack	366,587		7,468,572	1,395,994.76	29,874.28	22.44	29,896.72
Pine, red	75		10,827	2,023.74	54.14	51.43	105.57
Pine, white	4,971		626,223	117,051.03	3,131.13	2,981.49	6,112.62
Poplar	12,132		750,256	140,234.76	1,125.38	241.37	1,366.75
Spruce	105,962		2,376,935	444,286.91	9,507.74	7,130.80	16,638.54
Tamarack	103		437	81.68	1.31	1.31	2.62
Total Ontario Scale	493,101		11,377,224	2,126,583.91	43,913.12	10,511.13	54,424.25
<b>Cubic Foot Measure</b>							
<b>Sawlogs</b>							
Balsam	1,959		11,041.50	11,041.50	182.18	39.44	221.62
Birch, white	2,986		19,464.71	19,464.71	115.67	98.21	213.88
Birch, yellow	42		495.93	495.93	2.98	1.98	4.96
Cedar	212		2,554.25	2,554.25	42.07	1.50	43.57
Pine, jack	429,352		2,303,778.24	2,303,778.24	51,466.53	21,158.63	72,625.16
Pine, white	8		139.92	139.92	4.62	.98	5.60
Poplar	3,970		40,363.05	40,363.05	242.18	175.95	418.13
Spruce	319,549		1,755,017.61	1,755,017.61	49,910.86	7,689.84	57,600.70
Tamarack	65		209.91	209.91	3.35	2.95	6.30
Total sawlogs	758,143		4,133,065.12	4,133,065.12	101,970.44	29,169.48	131,139.92
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Spruce	728		26,475.21	26,475.21	904.88	121.76	1,026.64
<b>Piling</b>							
Pine, jack	318		2,573.71	2,573.71	65.41	4.71	70.12
Poplar	12		375.25	375.25	21.05	3.76	24.81
<b>Poles</b>							
Cedar	89		2,675.45	2,675.45	145.94	26.75	172.69
Pine, jack	446		8,284.12	8,284.12	233.23	26.64	259.87
Poplar	21		630.45	630.45	34.11	6.30	40.41
Total Boom Timber, Piling, Poles	1,614		41,014.19	41,014.19	1,404.62	189.92	1,594.54
Total Cubic Foot Measure	759,757		4,174,079.31	4,174,079.31	103,375.06	29,359.40	132,734.46

# Cordage

## Pulpwood

Balsam	9,456.97	803,842.45	13,239.75	4,021.15	17,260.90
Birch, white	266.46	22,649.10	133.24	133.03	266.27
Pine, jack	25,992.64	2,209,374.40	51,985.28	2,681.70	54,666.98
Poplar	8,951.97	760,917.45	4,476.00	3,820.72	8,296.72
Spruce	264,473.94	22,480,284.90	740,526.99	109,053.93	849,580.92
Total pulpwood	309,141.98	26,277,068.30	810,361.26	119,710.53	930,071.79

## Fuelwood

Hardwood	1,257.00	106,845.00	628.50	28.50	657.00
Softwood	180.00	15,300.00	90.00	5.00	95.00
Total fuelwood	1,437.00	122,145.00	718.50	33.50	752.00

## Bolts

Birch, white	468.87	39,853.95	234.45	234.44	468.89
Poplar	6,452.19	548,436.15	3,226.12	3,226.12	6,452.24
Total bolts	6,921.06	588,290.10	3,460.57	3,460.56	6,921.13
Total cordage	317,500.04	26,987,503.40	814,540.33	123,204.59	937,744.92

## Miscellaneous

Posts — lin. ft.					
Cedar	1,167		93.50		93.50
Mining Timber — cu. ft.					
Pine, jack	120,148	168,622.31	3,963.87	49.47	4,013.34
Poplar	122	1,459.22	8.76	4.38	13.14
Spruce	41,856	101,381.61	3,339.72	598.09	3,937.81
Christmas trees	199	99.50	20.00		20.00
Total miscellaneous	163,492	273,432.64	7,425.85	651.94	8,077.79
Total Ontario scale	493,101	2,126,583.91	43,913.12	10,511.13	54,424.25
Total cubic foot measure	759,757	4,174,079.31	103,375.06	29,359.40	132,734.46
Total cordage		26,987,503.40	814,540.33	123,204.59	937,744.92
Grand total	1,416,350	33,561,599.26	969,254.36	163,727.06	1,132,981.42

Number of permits issued and included in above — 432

Conversion factor — Ontario scale to cubic foot measure — 5.35

Conversion factor — cordage to cubic foot measure — 85

68,562.93

# FORT FRANCES

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Birch, white	140		2,898	541.68	\$ 4.35	\$	\$ 4.35
Cedar	2,227		37,856	7,075.88	113.57	81.48	195.05
Pine, jack	387,956		11,083,942	2,071,764.85	44,335.78	274.87	44,610.65
Pine, red	2,310		145,422	27,181.68	727.13	847.50	1,574.63
Pine, white	1,682		129,862	24,273.27	649.33	699.58	1,348.91
Poplar	2,238		140,716	26,302.06	211.07		211.07
Spruce	184,608		3,184,677	595,266.73	12,738.70	4,936.01	17,674.71
Tamarack	47		533	99.63	1.59	1.08	2.67
Total Ontario Scale	581,208		14,725,906	2,752,505.78	58,781.52	6,840.52	65,622.04
<b>Cubic Foot Measure</b>							
<b>Sawlogs</b>							
Balsam	379		1,200.73	1,200.73	19.80	17.90	37.70
Cedar	205		2,141.05	2,141.05	35.29	61.60	96.89
Pine, jack	15,353		79,217.43	79,217.43	1,861.59	778.56	2,640.15
Pine, red	22,270		203,024.90	203,024.90	6,722.82	1,491.87	8,214.69
Pine, white	18,888		177,293.38	177,293.38	5,859.82	909.90	6,769.72
Poplar	176		1,471.04	1,471.04	8.91	4.75	13.66
Spruce	3,227		27,702.30	27,702.30	914.22	474.47	1,388.69
Total sawlogs	60,498		492,050.83	492,050.83	15,422.45	3,739.05	19,161.50
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Cedar	350		4,161.10	4,161.10	160.68		160.68
Pine, jack	3		54.07	54.07	2.37		2.37
Pine, red	10		297.11	297.11	16.26	4.10	20.36
Pine, white	106		1,405.71	1,405.71	57.12	14.33	71.45
Spruce	341		9,151.64	9,151.64	489.13	91.52	580.65
<b>Poles</b>							
Cedar	17		116.79	116.79	3.50		3.50
Pine, red	222		9,988.24	9,988.24	593.78	84.21	677.99



Pine, white	87	4,895.08	4,895.08	292.97	43.38	336.35
Poplar	60	738.60	738.60	29.54		29.54
Total Boom Timber, Piling, Poles	1,196	30,808.34	30,808.34	1,645.35	237.54	1,882.89
Total Cubic Foot Measure	61,694	522,859.17	522,859.17	17,067.80	3,976.59	21,044.39
<b>Cordage</b>						
Pulpwood						
Balsam		3,595.93	305,654.05	5,034.29	911.66	5,945.95
Pine, jack		36,546.93	3,106,489.05	72,233.44	5,981.23	78,214.67
Pine, jack (export levy)		(35,033.08)	(2,977,811.80)		17,449.82	17,449.82
Poplar		22,502.46	1,912,709.10	10,281.09	3,129.07	13,410.16
Poplar (export levy)		( 1,938.67)	( 164,786.95)		193.87	193.87
Spruce		61,348.51	5,214,623.35	171,393.28	27,994.17	199,387.45
Total Pulpwood		123,993.83	10,539,475.55	258,942.10	55,659.82	314,601.92
Fuelwood						
Hardwood		248.39	21,113.15	124.18	28.72	152.90
Softwood		356.18	30,275.30	178.10	3.75	181.85
Total fuelwood		604.57	51,388.45	302.28	32.47	334.75
Total cordage		124,598.40	10,590,864.00	259,244.38	55,692.29	314,936.67
<b>Miscellaneous</b>						
Posts — lin. ft.						
Cedar	4,927		7,427.60	371.38	7.00	378.38
Mining Timber — cu. ft.						
Cedar	442	5,315.90	5,315.90	87.56	37.52	125.08
Christmas Trees	293	146.50	146.50	2.75	17.40	17.40
Total Miscellaneous	5,662	12,890.00	12,890.00	473.59	47.27	520.86
Total Ontario scale	581,208	14,725,906	2,752,505.78	58,781.52	6,840.52	65,622.04
Total cubic foot measure	61,694	522,859.17	522,859.17	17,067.80	3,976.59	21,044.39
Total cordage		124,598.40	10,590,864.00	259,244.38	55,692.29	314,936.67
Grand total	648,564	124,598.40	13,879,118.95	335,567.29	66,556.67	402,123.96

Number of permits issued and included in above — 247  
Conversion factor, Ontario Scale to cubic foot measure — 5.35  
Conversion factor, cordage to cubic foot measure — 85

35,646.52

GERALDTON

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Cubic Foot Measure</b>							
<b>Sawlogs</b>					\$	\$	\$
Balsam	263		869.78	869.78	14.34	2.12	16.46
Birch, white	746		4,453.78	4,453.78	26.20	13.05	39.25
Cedar	506		5,264.52	5,264.52	86.71	1.04	87.75
Pine, jack	28,377		252,724.01	252,724.01	5,946.40	304.41	6,250.81
Poplar	126,928		807,302.94	807,302.94	4,748.92	987.02	5,735.94
Spruce	251,567		2,192,839.25	2,192,839.25	72,243.05	3,423.45	75,666.50
Total Sawlogs	408,387		3,263,454.28	3,263,454.28	83,065.62	4,731.09	87,796.71
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Balsam	33		17.28	17.28	.28	.10	.38
Cedar	1,399		23,948.15	23,948.15	394.45	28.17	422.62
Pine, jack	416		2,719.82	2,719.82	64.00	3.20	67.20
Spruce	5,245		46,049.38	46,049.38	1,516.90	133.48	1,650.38
<b>Piling</b>							
Spruce	263		5,244.92	5,244.92	172.76	6.17	178.93
<b>Poles</b>							
Cedar	14		237.45	237.45	10.05		10.05
Pine, jack	116		2,609.32	2,609.32	65.11	4.39	69.50
Spruce	316		1,498.84	1,498.84	64.53	14.27	78.80
Total boom timber, piling, poles	7,802		82,325.16	82,325.16	2,288.08	189.78	2,477.86
Total cubic foot measure	416,189		3,345,779.44	3,345,779.44	85,353.70	4,920.87	90,274.57
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam	22,967.45			1,952,233.25	32,154.42	7,026.31	39,180.73
Birch, white	1,052.00			89,420.00	525.99	.12	526.11
Pine, jack	161,251.93			13,706,414.05	322,503.86	17,305.21	339,809.07
Poplar	52,264.55			4,442,486.75	26,132.29	2.55	26,134.84
Spruce	392,013.86			33,321,178.10	1,097,638.81	101,419.03	1,199,057.84
Tamarack	5.91			502.35	8.27		8.27
Total pulpwood	629,555.70			53,512,234.50	1,478,963.64	125,753.22	1,604,716.86

<b>Fuelwood</b>						
Hardwood		1,275.73	108,437.05	637.86	28.10	665.96
Total fuelwood		1,275.73	108,437.05	637.86	28.10	665.96
<b>Bolts</b>						
Birch, white		73.49	6,246.65	36.75	18.37	55.12
Poplar		5,183.41	440,589.85	2,591.71	1,295.85	3,887.56
Total bolts		5,256.90	446,836.50	2,628.46	1,314.22	3,942.68
Total cordage		636,088.33	54,067,508.05	1,482,229.96	127,095.54	1,609,325.50
<b>Miscellaneous</b>						
Posts — lin. ft.						
Cedar	33		43.00	2.15	8.89	11.04
<b>Mining Timber</b> — cu. ft.						
Spruce	1,327		10,885.54	358.68	60.25	418.93
Christmas trees	674		337.00	33.70		33.70
Total miscellaneous	2,034		11,265.54	394.53	69.14	463.67
Total cubic foot measure	416,189		3,345,779.44	85,353.70	4,920.87	90,274.57
Total cordage		636,088.33	54,067,508.05	1,482,229.96	127,095.54	1,609,325.50
Grand total	418,223	836,088.33	57,424,553.03	1,567,978.19	132,085.55	1,700,063.74
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Number of permits issued and included in above —			137	3,606.01		
Conversion factor — Ontario scale to cubic foot measure —			5.35			
Conversion factor — cordage to cubic foot measure —			85			

# GOGAMA

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Pine, jack	73,856		2,277,457	425,692.89	9,109.83	1,365.81	10,475.64
Pine, red	8,566		966,558	180,665.04	4,832.82	4,146.49	8,979.31
Pine, white	36,771		4,580,171	856,106.73	22,900.91	21,132.89	44,033.80
Spruce	16,523		585,427	109,425.61	2,341.71	1,756.29	4,098.00
Total Ontario Scale	135,716		8,409,613	1,571,890.27	39,185.27	28,401.48	67,586.75
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Birch, white	8,995		48,002.31	48,002.31	288.00	143.74	431.74
Pine, jack	170,139		890,656.11	890,656.11	20,931.31	7,764.79	28,696.10
Poplar	67,340		377,365.23	377,365.23	2,264.18	1,045.25	3,309.43
Spruce	163,534		865,077.00	865,077.00	28,547.10	3,970.75	32,517.85
Total saw-logs	410,008		2,181,100.65	2,181,100.65	52,030.59	12,924.53	64,955.12
<b>Boom Timber, Piling, Poles</b>							
<b>Poles</b>							
Pine, jack	85		1,064.47	1,064.47	40.92	10.66	51.58
Pine, red	621		21,779.73	21,779.73	1,245.35	217.80	1,463.15
Spruce	283		3,206.05	3,206.05	138.48	32.06	170.54
Total boom timber, piling, poles	989		26,050.25	26,050.25	1,424.75	260.52	1,685.27
Total cubic foot measure	410,997		2,207,150.90	2,207,150.90	53,455.34	13,185.05	66,640.39



<b>Cordage</b>					
<b>Pulpwood</b>					
Balsam	56.76	4,824.60	79.46		79.46
Birch, white	31.18	2,650.30	15.59	7.80	23.39
Pine, jack	1,953.33	166,033.05	3,906.66	7.86	3,914.52
Poplar	111.96	9,516.60	55.98	27.99	83.97
Spruce	7,987.06	678,900.10	22,363.76	2,485.72	24,849.48
Total pulpwood	10,140.29	861,924.65	26,421.45	2,529.37	28,950.82
<b>Fuelwood</b>					
Hardwood	93.00	7,905.00	46.50		46.50
Softwood	114.00	9,690.00	57.00	57.00	114.00
Total fuelwood	207.00	17,595.00	103.50	57.00	160.50
Total cordage	10,347.29	879,519.65	26,524.95	2,586.37	29,111.32
<b>Miscellaneous</b>					
<b>Mining Timber — cu. ft.</b>					
Pine, jack	63,246	217,294.42	5,112.80	766.92	5,879.72
Spruce	5,482	16,138.79	531.64	66.45	598.09
Total miscellaneous	68,728	233,433.21	5,644.44	833.37	6,477.81
Total Ontario Scale	135,716	1,571,890.27	39,185.27	28,401.48	67,586.75
Total cubic foot measure	410,997	2,207,150.90	53,455.34	13,185.05	66,640.39
Total cordage		879,519.65	26,524.95	2,586.37	29,111.32
Grand total	615,441	—	124,810.00	45,006.27	169,816.27
<b>Number of permits issued and included in above —</b>					
Conversion factor — Ontario Scale to cubic foot measure —	31	5.35			1,365.62
Conversion factor — cordage to cubic foot measure —	85				

# KAPUSKASING

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Cubic Foot Measure</b>							
Balsam	455,211		1,551,791.57	1,551,791.57	\$ 26,013.69	\$ 2,427.55	\$ 28,441.24
Birch, white	531,501		918,038.28	918,038.28	5,507.68	42.42	5,550.10
Cedar	13		233.75	233.75	3.85		3.85
Pine, jack	659,046		1,963,486.88	1,963,486.88	48,908.23	25,622.72	74,530.95
Poplar	752,850		2,889,501.12	2,889,501.12	17,326.22	2,466.96	19,793.18
Spruce	4,262,487		14,468,312.12	14,468,312.12	490,879.02	51,770.39	542,649.41
Tamarack	53		235.32	235.32	3.88	5.14	9.02
Total sawlogs	6,661,161		21,791,599.04	21,791,599.04	588,642.57	82,335.18	670,977.75
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Spruce	5,503		65,755.49	65,755.49	3,303.81	6.65	3,310.46
<b>Poles</b>							
Cedar	02		- 37.47	37.47	1.12		1.12
Pine, jack	51		841.51	841.51	35.29		35.29
Total boom timber, piling, poles	5,556		66,634.47	66,634.47	3,340.22	6.65	3,346.87
Total cubic foot measure	6,666,717		21,858,233.51	21,858,233.51	591,982.79	82,341.83	674,324.62
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		15,671.44		1,332,072.40	21,940.02	7,126.30	29,066.32
Balsam (export levy)	( 526.26)			( 44,732.10)		526.26	526.26
Birch, white	1,379.51			117,258.35	689.76	97.56	787.32
Pine, jack	2,552.77			214,435.45	5,045.54	170.92	5,216.46
Poplar	11,620.36			987,730.60	5,810.18	3,227.40	9,037.58
Spruce	362,003.67			39,770,311.95	1,013,610.14	169,058.85	1,182,668.99
Spruce (export levy)	( 14,080.80)			( 1,196,868.00)		14,080.80	14,080.80
Total pulpwood	393,197.75			33,421,808.75	1,047,095.64	194,288.09	1,241,383.73

<b>Fuelwood</b>					
Hardwood	1,688.25		143,501.25	844.13	844.13
Total fuelwood	1,688.25		143,501.25	844.13	844.13
<b>Bolts</b>					
Birch, white	531.88		45,209.80	265.95	267.01
Poplar	4,274.41		363,324.85	2,137.22	2,407.87
Total bolts	4,806.29		408,534.65	2,403.17	2,674.88
Total cordage	399,692.29		33,973,844.65	1,050,342.94	196,962.97
<b>Miscellaneous</b>					
Posts—lin. ft.					
Cedar		622		49.78	49.78
Mining Timber—cu. ft.					
Spruce		1,835	5,935.62	195.52	13.72
Christmas trees		300	150.00	15.00	15.00
Total miscellaneous		2,757	7,081.22	260.30	13.72
Total cubic foot measure		6,666,717	21,858,233.51	591,982.79	82,341.83
Total cordage			399,692.29	1,050,342.94	196,962.97
Grand total		6,669,474	55,839,159.38	1,642,586.03	279,318.52
					1,921,904.55
Number of permits issued and included in above—					825
Conversion factor—Ontario scale to cubic foot measure—					5.35
Conversion factor—cordage to cubic foot measure—					85
					216,079.83

# KENORA

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
Ontario Scale							
Pine, red	941		42,601	7,962.80	213.01	235.36	448.37
Pine, white	28		2,684	501.68	13.42	13.42	26.84
Total Ontario Scale	969		45,285	8,464.48	226.43	248.78	475.21
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Pine, jack	78,983		366,020.31	366,020.31	8,601.49	3,157.23	11,758.72
Pine, red	7,250		52,920.95	52,920.95	1,746.39	2,168.23	3,914.62
Pine, white	9,240		90,736.22	90,736.22	2,994.30	3,549.83	6,544.13
Poplar	2,168		20,119.87	20,119.87	120.73	53.08	173.81
Spruce	45,507		287,365.61	287,365.61	9,483.06	5,304.57	14,787.63
Total saw-logs	143,148		817,162.96	817,162.96	22,945.97	14,232.94	37,178.91
<b>Boom Timber, Piling, Poles</b>							
Boom and Dimension Timber							
Pine, red	105		3,691.63	3,691.63	215.61	73.84	289.45
Poles							
Cedar	417		4,312.46	4,312.46	190.55	86.25	276.80
Pine, jack	13,209		139,127.17	139,127.17	5,215.24	1,844.26	7,059.50
Pine, red	369		8,317.42	8,317.42	468.80	194.94	663.74
Pine, white	26		1,253.47	1,253.47	74.09	25.07	99.16
Poplar	35		623.25	623.25	27.27		27.27
Spruce	487		16,857.29	16,857.29	954.10	297.48	1,251.58
Total boom timber, piling, poles	14,643		174,182.69	174,182.69	7,145.66	2,521.84	9,637.50
Total cubic foot measure	157,796		991,345.65	991,345.65	30,091.63	16,754.78	46,846.41
<b>Cordage</b>							
Pulpwood							
Balsam		2,987.73		253,957.05	4,182.83	2,061.64	6,244.47
Birch, white		39.97		3,397.45	19.99	10.59	30.58



Pine, jack	137,238.67	11,665,286.95	274,477.34	34,533.71	309,011.05
Poplar	4,078.03	346,632.55	2,039.02	3,043.90	5,082.92
Spruce	178,545.32	15,176,352.20	472,278.23	74,918.26	547,196.49
Total pulpwood	322,889.72	27,445,626.20	752,997.41	114,568.10	867,565.51
<b>Fuelwood</b>					
Hardwood	78.80	6,698.00	39.41	20.82	60.23
Softwood	242.20	20,587.00	121.10	66.28	187.38
Total fuelwood	321.00	27,285.00	160.51	87.10	247.61
Total cordage	323,210.72	27,472,911.20	753,157.92	114,655.20	867,813.12
<b>Miscellaneous</b>					
Posts — lin. ft.					
Cedar	13,978	112,721	1,127.21	365.25	1,492.46
Pine, jack	385	5,848	58.48		58.48
Tamarack	622	5,287	52.87		52.87
Christmas Trees	50	25.00	5.00		5.00
Total Miscellaneous	15,035	24,796.20	1,243.56	365.25	1,608.81
Total Ontario Scale	969	8,464.48	226.43	248.78	475.21
Total cubic foot measure	157,796	991,345.65	30,091.63	16,754.78	46,846.41
Total cordage		27,472,911.20	753,157.92	114,655.20	867,813.12
Grand total	173,800	—	784,719.54	132,024.01	916,743.55

Number of permits issued and included in above—	406	129,148.37
Conversion factor—Ontario Scale to cubic foot measure—	5.35	
Conversion factor—cordage to cubic foot measure	85	

LINDSAY

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	941		51,607	9,646.16	258.06	127.53	385.59
Balsam	1,386		33,461	6,254.39	133.85	354.00	487.85
Bass-wood	5,820		360,913	67,460.37	1,804.59	2,050.73	3,855.32
Beech	14,518		887,842	165,951.78	1,331.76	1,847.18	3,178.94
Birch, white	3,114		130,845	24,457.01	196.26	493.27	689.53
Birch, yellow	8,864		672,449	125,691.41	3,362.28	4,885.67	8,247.95
Cedar	802		22,066	4,124.49	66.21	85.69	151.90
Cherry	134		7,467	1,395.70	37.34	14.42	51.76
Elm	2,324		218,730	40,884.11	1,093.67	456.79	1,550.46
Hemlock	33,895		2,282,004	426,542.80	6,846.03	2,994.68	9,840.71
Maple	37,779		3,105,472	580,462.05	15,527.38	10,795.62	26,323.00
Oak	3,104		166,278	31,080.00	831.42	604.62	1,436.04
Pine, red	1,785		87,585	16,371.03	437.93	1,133.84	1,571.77
Pine, white	21,553		1,841,663	344,236.07	9,208.32	13,834.28	23,042.60
Poplar	11,647		532,278	99,491.21	798.42	2,487.45	3,285.87
Spruce	5,884		367,801	68,747.85	1,471.19	1,602.81	3,074.00
Tamarack	1		209	39.07	.63	.21	.84
<b>Total Ontario Scale</b>	<b>153,551</b>		<b>10,768,670</b>	<b>2,012,835.50</b>	<b>43,405.34</b>	<b>43,768.79</b>	<b>87,174.13</b>
<b>Cubic Foot Measure</b>							
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Cedar	1		24.85	24.85	1.24	.25	1.49
Hemlock	234		3,608.39	3,608.39	164.89	23.54	188.43
Pine, white	110		1,607.09	1,607.09	67.09	32.14	99.23
Spruce	39		692.83	692.83	30.91	13.81	44.72
<b>Poles</b>							
Beech	93		1,219.92	1,219.92	49.31	12.21	61.52
Birch, white	1		5.35	5.35	.16	.05	.21
Poplar	2		9.28	9.28	.28	.09	.37
<b>Total boom timber, piling, poles</b>	<b>480</b>		<b>7,167.71</b>	<b>7,167.71</b>	<b>313.88</b>	<b>82.09</b>	<b>395.97</b>
<b>Total cubic foot measure</b>	<b>480</b>		<b>7,167.71</b>	<b>7,167.71</b>	<b>313.88</b>	<b>82.09</b>	<b>395.97</b>

<b>Cordage</b>					
<b>Pulpwood</b>					
Birch, white	82.28	6,993.80	41.14	11.97	53.11
Elm	133.40	11,339.00	66.70	33.35	100.05
Maple	632.02	53,721.70	316.01	123.59	439.60
Poplar	460.00	39,100.00	230.01	34.47	264.48
Total pulpwood	1,307.70	111,154.50	653.86	203.38	857.24
<b>Fuelwood</b>					
Hardwood	331.48	28,175.80	165.74	41.50	207.24
Total fuelwood	331.48	28,175.80	165.74	41.50	207.24
Total cordage	1,639.18	139,330.30	819.60	244.88	1,064.48
<b>Miscellaneous</b>					
Posts — lin. ft.	3,742	29,936	299.36	210.64	510.00
Cedar					
Total miscellaneous	3,742	5,987.20	299.36	210.64	510.00
Total Ontario Scale	153,551	2,012,835.50	43,405.34	43,768.79	87,174.13
Total cubic foot measure	480	7,167.71	313.88	82.09	395.97
Total cordage	1,639.18	139,330.30	819.60	244.88	1,064.48
Grand total	157,773	2,165,320.71	44,838.18	44,306.40	89,144.58

Number of permits issued and included in above—	48	10,572.32
Conversion factor—Ontario Scale to cubic foot measure—	5.35	
Conversion factor—cordage to cubic foot measure	85	

# MAPLE

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							\$
Ontario Scale							
Balsam	30		1,118	208.97	4.47	6.71	11.18
Basswood	99		5,761	1,076.82	28.81	57.61	86.42
Birch, white	162		6,765	1,264.49	10.15	37.21	47.36
Birch, yellow	37		1,960	366.36	9.80	25.48	35.28
Elm	26		1,006	188.04	5.03	5.03	10.06
Hemlock	36		2,094	391.40	6.28	12.56	18.84
Maple	261		15,684	2,931.59	78.43	109.79	188.22
Oak	694		44,019	8,227.85	220.10	440.19	660.29
Pine, white	1,713		135,045	25,242.05	675.23	1,947.88	2,623.11
Poplar	642		39,142	7,316.26	58.71	215.30	274.01
Total Ontario Scale	3,700		252,594	47,213.83	1,097.01	2,857.76	3,954.77
<b>Cordage</b>							
Pulpwood							
Pine, red		233.67		19,861.95	327.14	2,593.74	2,920.88
Pine, white		13.23		1,124.55	20.15	136.63	156.78
Total Pulpwood		246.90		20,986.50	347.29	2,730.37	3,077.66
<b>Fuelwood</b>							
Hardwood							
Total Fuelwood		306.30		26,035.50	153.15	149.40	302.55
Total Cordage		553.20		47,022.00	500.44	2,879.77	3,380.21
Total Ontario Scale	3,700		252,594	47,213.83	1,097.01	2,857.76	3,954.77
Grand Total	3,700	553.20		94,235.83	1,597.45	5,737.53	7,334.98

Number of permits issued and included in above— 14 122.19  
Conversion factor—Ontario Scale to cubic foot measure— 5.35  
Conversion factor—cordage to cubic foot measure— 85



Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
Board Foot Measure							
Ontario Scale							
Ash	393		25,306	4,730.09	\$ 126.55	\$ 57.98	\$ 184.53
Balsam	275		4,915	918.69	19.66	25.98	45.64
Basswood	1,191		81,302	15,196.64	406.52	274.71	681.23
Beech	23		1,432	267.66	2.15	5.11	7.26
Birch, white	31,089		1,348,022	251,966.73	2,022.05	6,421.94	8,443.99
Birch, yellow	95,477		6,339,054	1,184,869.90	31,695.31	61,621.11	93,316.42
Cedar	2,401		48,315	9,030.84	144.94	147.45	292.39
Cherry	8		402	75.14	2.01	1.21	3.22
Elm	1,048		84,847	15,859.25	424.26	174.37	598.63
Hemlock	3,322		231,888	43,343.55	695.66	259.88	955.54
Maple	25,487		1,966,239	367,521.31	9,831.22	4,121.62	13,952.84
Oak	967		78,441	14,661.87	392.21	172.64	564.85
Pine, jack	42,897		810,481	151,491.78	3,241.92	1,928.63	5,170.55
Pine, red	184,386		14,016,489	2,619,904.48	70,082.51	58,979.68	129,062.19
Pine, white	379,703		38,583,231	7,211,819.97	192,916.28	216,463.80	409,380.08
Poplar	3,541		211,312	39,497.57	316.97	499.70	816.67
Spruce	28,436		1,594,108	297,964.11	6,376.46	6,492.85	12,869.31
Total Ontario Scale	800,644		65,425,790	12,229,119.57	318,696.68	357,648.66	676,345.34
Cubic Foot Measure							
Sawlogs							
Pine, Jack	4,212		22,690.24	22,690.24	533.22	828.19	1,361.41
Total Sawlogs	4,212		22,690.24	22,690.24	533.22	828.19	1,361.41
Boom Timber, Piling, Poles							
Boom and Dimension Timber							
Spruce	26		682.04	682.04	36.09	20.46	56.55
Poles							
Birch, yellow	10		222.90	222.90	10.94	6.68	17.62
Cedar	255		2,046.49	2,046.49	66.06	72.46	138.52
Maple	10		257.24	257.24	13.26	7.72	20.98
Pine, jack	12		229.83	229.83	10.33	6.90	17.23
Pine, red	667		12,712.05	12,712.05	557.41	435.09	992.50
Poplar	154		1,223.70	1,223.70	36.71	36.71	73.42
Spruce	512		5,033.52	5,033.52	176.64	201.40	378.04
Total Boom Timber, Piling, Poles	1,646		22,407.77	22,407.77	907.44	787.42	1,694.86
Total Cubic Foot Measure	5,858		45,098.01	45,098.01	1,440.66	1,615.61	3,056.27

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Cordage</b>							
Pulpwood						\$	\$
Ash		276.31		23,486.35	138.16	132.33	270.49
Balsam		1,475.91		125,452.35	2,066.27	554.17	2,620.44
Basswood		23.74		2,017.90	11.88	5.40	17.28
Beech		78.02		6,631.70	39.01		39.01
Birch, white		5,641.99		479,569.15	2,821.00	2,689.96	5,510.96
Birch, yellow		94.22		8,008.70	47.12	41.23	88.35
Elm		14.08		1,196.80	7.04	3.23	10.27
Hemlock		852.14		72,431.90	1,193.00	511.28	1,704.28
Maple		620.39		52,733.15	310.20	56.23	366.43
Oak		39.82		3,384.70	19.91		19.91
Pine, jack		738.21		62,747.85	1,476.42	170.57	1,646.99
Pine, red		410.73		34,912.05	575.02	242.83	817.85
Pine, white		702.49		59,711.65	983.48	400.56	1,384.04
Poplar		33,806.92		2,873,588.20	16,903.48	14,428.29	31,331.77
Spruce		7,145.28		607,348.80	20,006.78	2,247.21	22,253.99
Tamarack		20.93		1,779.05	29.30	12.10	41.40
Total Pulpwood		51,941.18		4,415,000.30	46,628.07	21,495.39	68,123.46
<b>Fuelwood</b>							
Hardwood		1,151.00		97,835.00	575.50	563.00	1,138.50
Total Fuelwood		1,151.00	-	97,835.00	575.50	563.00	1,138.50
<b>Bolts</b>							
Poplar		435.13		36,986.05	217.57	108.78	326.35
Poplar (export levy)	(	442.79)		( 37,637.15)		44.28	44.28
Total Bolts		435.13		36,986.05	217.57	153.06	370.63
Total Cordage		53,527.31		4,549,821.35	47,421.14	22,211.45	69,632.59
<b>Miscellaneous</b>							
Car Stakes							
Spruce	389		499.80	499.80	16.46	4.12	20.58
Total Miscellaneous	389			499.80	16.46	4.12	20.58
Total Ontario Scale	800,644		65,425,790	12,229,119.57	318,696.68	357,648.66	676,345.34
Total cubic foot measure	5,858		45,098.01	45,098.01	1,440.66	1,615.61	3,056.27
Total cordage		53,527.31		4,549,821.35	47,421.14	22,211.45	69,632.59
Grand Total	806,891	53,527.31		16,824,538.73	367,574.94	381,479.84	749,054.78

# PARRY SOUND

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	1,184		80,562	15,058.32	402.85	294.07	\$ 696.92
Balsam	1,668		43,242	8,082.62	172.96	72.93	245.89
Basswood	9,180		656,268	122,666.92	3,281.38	4,151.98	7,433.36
Beech	3,217		238,778	44,631.40	358.18	786.17	1,144.35
Birch, white	18,537		539,821	100,901.12	809.73	1,358.36	2,168.09
Birch, yellow	90,553		7,786,751	1,455,467.47	38,933.82	69,508.31	108,442.13
Cedar	260		9,196	1,718.88	27.59	6.96	34.55
Cherry	1,152		76,549	14,308.22	382.77	100.65	483.42
Elm	2,592		343,301	64,168.41	1,716.56	1,086.84	2,803.40
Hemlock	22,771		2,044,194	382,092.33	6,132.60	5,323.91	11,456.51
Maple	111,759		9,036,957	1,689,150.83	45,184.85	30,614.93	75,614.93
Oak	1,695		157,804	29,496.07	789.06	825.55	1,614.61
Pine, jack	349		4,837	904.11	19.35	12.09	31.44
Pine, red	1,034		48,141	8,998.32	240.71	481.41	722.12
Pine, white	21,905		1,603,829	299,781.12	8,019.22	14,133.30	22,152.52
Poplar	960		55,397	10,354.58	83.08	159.37	242.45
Spruce	15,993		913,884	170,819.44	3,655.55	4,700.36	8,355.91
Tamarack	88		2,806	524.49	8.42	3.26	11.68
Total Ontario Scale	304,897		23,642,317	4,419,124.65	110,218.68	133,435.60	243,654.23
<b>Cubic Foot Measure</b>							
<b>Sawlogs</b>							
Pine, jack	5,851		22,137.36	22,137.36	520.23	475.95	996.18
Pine, red	983		6,232.20	6,232.20	205.66	292.91	498.57
Pine, white	2,168		16,720.75	16,720.75	551.78	919.64	1,471.42
Poplar	349		1,390.10	1,390.10	8.34	19.46	27.80
Spruce	299		1,409.44	1,409.44	46.51	52.15	98.66
Total Saw-logs	9,650		47,889.85	47,889.85	1,332.52	1,760.11	3,092.63
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Balsam	199		700.00	700.00	21.00		21.00
Cedar	155		1,489.56	1,489.56	51.95	40.81	92.76
Hemlock	281		5,177.79	5,177.79	284.64	47.52	332.16

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Pine, red	573		7,367.63	7,367.63	243.13	419.96	663.09
Pine, white	276		4,823.39	4,823.39	176.53	263.67	440.20
Spruce	445		11,278.03	11,278.03	589.54	119.40	708.94
<b>Poles</b>							
Balsam	21		350.00	350.00	10.50		10.50
Spruce	78		1,820.00	1,820.00	127.40		127.40
Tamarack	31		500.00	500.00	15.00		15.00
Total boom timber, piling, poles	2,059		33,506.40	33,506.40	1,519.69	891.36	2,411.05
Total cubic foot measure	11,709		81,396.25	81,396.25	2,852.21	2,651.47	5,503.68
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		1,262.02		107,271.70	1,766.83	456.20	2,223.03
Birch, white		1,010.41		85,884.85	505.20	505.21	1,010.41
Pine, jack		159.36		13,545.60	318.72	119.52	438.24
Poplar		5,205.63		442,478.55	2,602.88	2,424.17	5,027.05
Spruce		925.77		78,690.45	2,592.16	185.15	2,777.31
Total pulpwood		8,563.19		727,871.15	7,785.79	3,690.25	11,476.04
<b>Fuelwood</b>							
Hardwood		2,492.05		211,824.25	1,246.03	226.56	1,472.59
Total fuelwood		2,492.05		211,824.25	1,246.03	226.56	1,472.59
Total cordage		11,055.24		939,695.40	9,031.82	3,916.81	12,948.63
<b>Miscellaneous</b>							
<b>Posts — lin. ft.</b>							
Cedar	1,455		11,641	2,328.20	116.41		116.41
Total Miscellaneous	1,455			2,328.20	116.41		116.41
Total Ontario Scale	304,897		23,639,317	4,419,124.65	110,218.68	133,435.60	243,654.28
Total cubic foot measure	11,709		81,396.25	81,396.25	2,852.21	2,651.47	5,503.68
Total cordage		11,055.24		939,695.40	9,031.82	3,916.81	12,948.63
Grand total	318,061	11,055.24		5,442,544.50	122,219.12	140,003.88	262,223.00
Number of permits issued and included in above— Corrosion footings Ontario Scale to cubic foot measure 315 5.95							
							52,244.03



# PEMBROKE

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	778		57,406	10,730.09	287.06	\$ 135.16	\$ 422.22
Balsam	2,385		50,830	9,500.94	203.33	126.12	329.45
Basswood	5,375		343,339	64,175.52	1,716.74	1,366.24	3,082.98
Beech	3,200		220,782	41,267.67	331.17	339.73	670.90
Birch, white	17,327		892,461	166,815.14	1,338.71	1,645.48	2,984.19
Birch, yellow	135,216		11,869,097	2,218,522.79	59,345.52	100,250.21	159,595.73
Cedar	213		8,820	1,648.60	26.46	14.05	40.51
Cherry	351		26,395	4,933.64	131.98	34.38	166.36
Elm	1,714		201,425	37,649.53	1,007.16	313.36	1,320.52
Hemlock	106,152		8,302,554	1,551,879.25	24,907.69	13,989.75	38,897.44
Maple	154,892		13,010,978	2,431,958.49	65,054.94	19,739.22	84,794.16
Oak	6,060		264,803	49,495.89	1,324.04	1,912.59	2,236.63
Pine, jack	31,227		1,234,365	230,722.43	4,937.47	5,966.73	10,904.20
Pine, red	100,943		4,992,750	933,224.29	24,963.82	35,966.46	60,930.28
Pine, white	282,528		19,116,659	3,573,207.27	95,583.39	153,990.48	249,373.87
Poplar	85,254		4,200,289	785,100.74	6,300.43	5,415.91	11,716.34
Spruce	46,665		2,701,610	504,973.83	10,806.43	13,107.32	23,913.75
Tamarack	31		751	140.37	2.26	.24	2.50
Total Ontario Scale	980,311		67,495,314	12,615,946.48	298,268.60	353,313.43	651,582.03
<b>Cubic Foot Measure</b>							
<b>Boom Timber, Piling, Poles</b>							
Boom	50		1,221.57	1,221.57	60.59	61.09	121.68
Spruce							
Poles							
Hemlock	540		16,799.37	16,799.37	919.06	67.21	986.27
Pine, jack	3,802		85,694.94	85,694.94	4,193.62	4,472.38	8,666.00
Pine, red	21,345		493,732.93	493,732.93	24,543.17	36,816.29	61,359.46
Pine, white	24		328.97	328.97	13.16	13.16	26.32
Spruce	103		3,433.32	3,433.32	192.94	51.39	244.33
Total Boom Timber, Piling, Poles	25,864		601,211.10	601,211.10	29,922.54	41,481.52	71,404.06
Total cubic foot measure	25,864		601,211.10	601,211.10	29,922.54	41,481.52	71,404.06

PEMBROKE

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Cordage</b>							
Pulpwood							
Ash		8.87		753.95	4.44	4.43	8.87
Balsam		580.92		49,378.20	813.28	234.18	1,047.46
Birch, white		5.77		490.45	2.89		2.89
Hemlock		3,072.62		261,172.70	4,301.67		4,301.67
Pine, jack		6,200.29		527,024.65	12,400.58		12,400.58
Pine, red		1.47		124.95	2.06		2.06
Pine, white		369.21		31,382.85	516.89		516.89
Poplar		14,344.27		1,219,262.95	7,172.16	3,363.82	10,535.98
Poplar (export levy)		( 3,612.77)		( 307,085.45)		1,207.62	1,207.62
Spruce		2,543.90		216,231.50	7,122.92	1,435.93	8,558.85
Total pulpwood		27,127.32		2,305,822.20	32,336.89	6,245.98	38,582.87
<b>Fuelwood</b>							
Hardwood		558.82		47,499.70	279.43	32.64	312.07
Total fuelwood		558.82		47,499.70	279.43	32.64	312.07
Total cordage		27,686.14		2,353,321.90	32,616.32	6,278.62	38,894.94
<b>Miscellaneous</b>							
Posts							
Cedar	346		2,768	553.60	27.68	27.68	55.36
Total Miscellaneous	346			553.60	27.68	27.68	55.36
Total Ontario Scale	980.311		67,495,314	12,615,946.48	298,268.60	353,313.43	651,582.03
Total cubic foot measure	25,864		601,211.10	601,211.10	29,922.54	41,481.52	71,404.06
Total cordage		27,686.14		2,353,321.90	32,616.32	6,278.62	38,894.94
Grand total	1,006,521	27,686.14		15,571,033.08	360,835.14	401,101.25	761,936.39
Number of permits issued and included in above — 107 Conversion factor—Ontario Scale to cubic foot measure— 5.35 Conversion factor—cordage to cubic foot measure— 85							
							38,649.43

# PORT ARTHUR

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
Ontario Scale							
Balsam	76		1,122	209.71	4.48	2.98	7.46
Birch, white	5,361		128,975	24,107.48	193.46	64.49	257.95
Pine, jack	12,342		265,843	49,690.28	1,063.37	929.14	1,992.51
Pine, red	3,766		292,018	54,582.80	1,460.10	1,484.74	2,944.84
Pine, white	4,227		441,045	82,438.32	2,205.25	2,345.62	4,550.87
Poplar	204		7,914	1,479.26	11.87	3.36	15.23
Spruce	3,133		111,398	20,822.06	445.60	401.70	847.30
Tamarack	33		752	140.56	2.26	1.88	4.14
Total Ontario Scale	29,142		1,249,067	233,470.47	5,386.39	5,233.91	10,620.30
<b>Cubic Foot Measure</b>							
Saw-logs							
Balsam	2,454		17,015.69	17,015.69	280.59	138.59	419.18
Birch, white	6,521		29,435.59	29,435.59	176.61	412.09	588.70
Cedar	600		7,894.40	7,894.40	130.03	55.73	185.76
Pine, jack	163,518		2,072,870.40	2,072,870.40	48,731.14	10,921.36	59,652.50
Pine, red	468		3,205.38	3,205.38	105.78	118.59	224.37
Pine, white	297		3,234.24	3,234.24	106.73	111.65	218.38
Poplar	11,532		67,258.54	67,258.54	402.00	923.98	1,925.98
Spruce	51,438		565,664.87	565,664.87	18,645.38	3,035.77	21,081.15
Total saw-logs	236,828		2,766,579.11	2,766,579.11	68,578.26	15,717.76	84,296.02
<b>Boom Timber Piling, Poles Boom and Dimension Timber</b>							
Poles							
Pine, white	17		1,058.64	1,058.64	61.64	21.17	82.81
Spruce	187		3,557.63	3,557.63	256.04	44.29	300.33
Birch, white	32		153.32	153.32	4.60	1.53	6.13

# PORT ARTHUR

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Piling</b>							
Cedar	13		189.82	189.82	7.59	3.85	11.44
Pine, jack	7,845		147,048.12	147,048.12	6,656.90	1,511.94	8,168.84
Pine, red	550		17,692.03	17,692.03	996.60	354.22	1,350.82
Pine, white	16		219.69	219.69	8.63	4.77	13.40
Spruce	337		9,276.94	9,276.94	305.24	45.43	350.67
Total Boom timber, piling, poles	8,997		179,196.19	179,196.19	8,297.24	1,987.20	10,284.44
Total cubic foot measure	245,825		2,945,775.30	2,945,775.30	76,875.50	17,704.96	94,580.46
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		20,369.13		1,731,376.05	28,516.77	8,427.91	36,944.68
Birch, white		1,443.83		122,725.55	721.93	1,051.30	1,773.23
Pine, jack		31,585.91		2,684,802.35	63,171.82	3,709.39	66,881.21
Poplar		5,995.51		509,618.35	2,997.76	5,051.13	8,048.89
Spruce		241,092.47		20,492,859.95	675,058.92	105,118.29	780,177.21
Tamarack		218.60		18,581.00	306.04	32.02	338.06
Total Pulpwood		300,705.45		25,559,963.25	770,773.24	123,390.04	894,163.28
<b>Fuelwood</b>							
Softwood		326.37		27,741.45	163.19	183.18	346.37
Total fuelwood		326.37		27,741.45	163.19	183.18	346.37
<b>Bolts</b>							
Birch, white		261.36		22,215.60	130.68	243.16	373.84
Poplar		5,915.83		502,845.55	2,957.93	4,857.37	7,815.30
Total bolts		6,177.19		525,061.15	3,088.61	5,100.53	8,189.14
Total cordage		307,209.01		26,112,765.85	774,025.04	128,673.75	902,698.79



Miscellaneous						
Posts — lin. ft.						
Cedar	713					
Christmas Trees	50	5,704	1,140.80	57.04	27.83	84.87
			25.00	5.00		5.00
Total miscellaneous	763					
Total Ontario Scale	29,142	1,249,067	1,165.80	62.04	27.83	89.87
Total cubic foot measure	245,825	2,945,775.30	233,470.47	5,386.39	5,233.91	10,620.30
Total cordage		307,209.01	2,945,775.30	76,875.50	17,704.96	94,580.46
			26,112,765.85	774,025.04	128,673.75	902,698.79
Grand total	275,730	307,209.01	29,293,177.42	856,348.97	151,640.45	1,007,989.42

Number of permits issued and included in above —		291	53,022.11
Conversion factor — Ontario Scale to cubic foot measure —	5.35		
Conversion factor — cordage to cubic foot measure —	85		

## SAULT STE. MARIE

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	61		5,087	950.84	25.45	15.58	41.03
Balsam	10		399	74.58	1.59	6.44	8.03
Birch, white	21,010		1,151,305	215,197.20	1,726.96	4,772.57	6,499.53
Birch, yellow	251,660		19,543,754	3,653,038.11	97,718.82	188,664.55	286,383.37
Cedar	342		9,505	1,776.64	28.51	43.00	71.51
Elm	609		68,038	12,717.38	340.20	183.83	524.03
Hemlock	4,683		482,967	90,274.21	1,448.91	1,103.83	2,552.74
Maple	94,643		6,993,246	1,307,148.78	34,966.30	21,917.29	56,883.59
Oak	3,844		380,273	71,079.07	1,901.37	1,388.74	3,290.11
Pine, jack	629		37,865	7,077.57	151.46	75.73	227.19
Pine, red	45,231		3,963,894	740,914.76	19,819.50	11,007.56	30,827.06
Pine, white	386,132		40,220,495	7,517,849.49	201,102.52	124,732.98	325,835.50
Poplar	1,109		71,259	13,319.44	106.90	224.42	331.32
Spruce	26,498		1,499,256	280,234.76	5,997.10	4,475.27	10,472.37
Total Ontario Scale	836,461		74,427,343	13,911,652.83	365,335.59	358,611.79	723,947.38
<b>Cubic Foot Measure</b>							
<b>Saw-logs</b>							
Balsam	501		2,696.37	2,696.37	44.49	31.01	75.50
Cedar	101		1,220.57	1,220.57	20.14	40.89	61.03
Pine, jack	19		161.83	161.83	3.80	5.90	9.70
Poplar	28		344.94	344.94	2.07	5.04	7.11
Spruce	447		1,364.40	1,364.40	45.03	32.65	77.68
Total saw-logs	1,096		5,788.11	5,788.11	115.53	115.49	231.02
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Pine, jack	209		3,497.18	3,497.18	147.31		147.31
Pine, red	69		2,859.69	2,859.69	168.81		168.81
Pine, white	90		4,537.16	4,537.16	271.97		271.97
Spruce	44		376.42	376.42	13.52		13.52
<b>Poles</b>							
Cedar	39		363.95	363.95	13.04		13.04
Total boom timber, piling, poles	451		11,634.40	11,634.40	614.65		614.65
Total cubic foot measure	1,547		17,422.51	17,422.51	730.18	115.49	845.67

<b>Cordage</b>					
<b>Pulpwood</b>					
Balsam	3,877.40		329,379.00	5,428.36	759.98
Birch, white	77.20		6,562.00	38.61	74.85
Pine, jack	193.33		16,433.05	386.66	318.99
Pine, red	301.12		25,595.20	421.55	2,749.45
Pine, white	.39		33.15	.55	1.40
Poplar	878.35		74,659.75	439.18	889.65
Spruce	7,983.73		678,617.05	22,354.45	2,646.70
Total pulpwood	13,311.52		1,131,479.20	29,069.36	7,441.02
<b>Fuelwood</b>					
Hardwood	910.68		77,407.80	455.34	455.34
Softwood	82.57		7,018.45	41.29	41.29
Total fuelwood	993.25		84,426.25	496.63	496.63
Total cordage	14,304.77		1,215,905.45	29,565.99	7,937.65
<b>Miscellaneous</b>					
<b>Posts — lin. ft.</b>					
Cedar	437	3,500	700.00	35.00	35.00
<b>Mining Timber — cu. ft.</b>					
Pine, jack	2	21.25	21.25	.50	.41
Spruce	261	3,136.00	3,136.00	116.48	70.72
<b>Ties</b>					
Balsam	30	360.35	360.35	6.59	3.53
Birch, white	1	7.65	7.65	.05	.09
Pine, jack	374	4,493.10	4,493.10	105.72	87.22
Pine, white	2	22.95	22.95	.38	.97
Spruce	94	1,122.00	1,122.00	36.96	22.44
Total miscellaneous	1,201		9,863.30	301.68	185.38
Total Ontario Scale	836,461	74,427.343	13,911,652.83	365,335.59	358,611.79
Total cubic foot measure	1,547	17,422.51	17,422.51	730.18	115.49
Total cordage		14,304.77	1,215,905.45	29,565.99	7,937.65
Grand total	839,209	14,304.77	15,154,844.09	395,933.44	366,850.31
<hr/>					
Number of permits issued and included in above —			128		
Conversion factor — Ontario Scale to cubic foot measure —			5.35		
Conversion factor — cordage to cubic foot measure —			85		
				366,850.31	762,783.75
					11,668.28

# SIOUX LOOKOUT

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Balsam	23,367		450,655	84,234.58	1,802.62	881.09	2,683.71
Pine, jack	386,112		9,658,697	1,805,363.92	38,634.78	4,380.06	43,014.84
Pine, red	99		5,534	1,034.39	27.67	27.67	55.34
Poplar	6,049		302,673	56,574.39	454.01		454.01
Spruce	592,036		10,241,442	1,914,288.22	40,965.77	16,962.17	57,927.94
Total Ontario Scale	1,007,663		20,659,001	3,861,495.50	81,884.85	22,250.99	104,135.84
<b>Cubic Foot Measure</b>							
<b>Sawlogs</b>							
Balsam	14		114.10	114.10	1.88	1.54	3.42
Birch, white	07		52.58	52.58	.32	.21	.53
Pine, jack	37,109		207,273.62	207,273.62	5,106.65	1,715.82	6,822.47
Pine, red	379		3,938.51	3,938.51	129.97	66.96	196.93
Poplar	10,659		91,384.24	91,384.24	548.31	84.43	632.74
Spruce	66,360		405,539.42	405,539.42	13,382.08	3,574.98	16,957.06
Total Sawlogs	114,528		708,302.47	708,302.47	19,169.21	5,443.94	24,613.15
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Pine, red	26		622.31	622.31	31.92	12.45	44.37
Spruce	2,311		34,122.09	34,122.09	1,586.00	293.41	1,879.41
<b>Poles</b>							
Cedar	51		635.43	635.43	24.59	12.71	37.30
Pine, jack	9,087		149,301.55	149,301.55	6,386.92	1,485.57	7,872.49
Pine, red	420		13,464.52	13,464.52	763.29	269.29	1,032.58
Spruce	22		590.47	590.47	31.18		31.18
Total Boom Timber, Piling, Poles	11,917		198,736.37	198,736.37	8,823.90	2,073.43	10,897.33
Total Cubic Foot Measure	126,445		907,038.84	907,038.84	27,993.11	7,517.37	35,510.48



	1960	1970	1980	1990	2000
ordage					
Pulpwood					
Balsam	481.73	674.42	270.97	945.39	
Pine, jack	68,580.98	137,161.96	12,268.70	149,430.66	
Spruce	107,167.45	300,069.04	17,552.32	317,621.36	
Tamarack	.13	11.05	.01	.19	

Number of permits issued and included in above —	179
Conversion factor — Ontario Scale to cubic foot measure —	5.35
Conversion factor — Cordage to cubic foot measure —	85

SUDBURY

SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	245		22,460	4,198.13	112.30	112.30	224.60
Basewood	90		1,270	237.38	6.35	12.70	19.05
Birch, white	17,392		912,200	170,504.67	1,368.31	3,458.81	4,827.12
Birch, yellow	17,062		1,278,477	238,967.66	6,392.40	16,173.28	22,565.68
Cedar	463		12,992	2,428.41	38.99	50.61	89.60
Elm	92		8,393	1,568.79	41.97	8.39	50.36
Hemlock	487		38,703	7,234.21	116.11	160.18	276.29
Maple	3,997		335,601	62,729.16	1,678.01	990.58	2,668.59
Oak	521		47,085	8,800.93	235.43	106.01	341.44
Pine, jack	62		2,913	544.49	11.65	10.30	21.95
Pine, red	31,607		2,246,529	419,911.96	11,232.66	8,402.34	19,635.00
Pine, white	49,501		4,345,278	812,201.49	21,726.41	22,544.48	44,270.89
Spruce	4,435		225,736	42,193.65	902.94	1,048.70	1,951.64
Tamarack	82		7,075	1,322.43	21.23	28.30	49.53
Total Ontario Scale	126,036		9,484,712	1,772,843.36	43,884.76	53,106.98	96,991.74
<b>Cubic Foot Measure</b>							
<b>Sawlogs</b>							
Balsam	563		3,345.18	3,345.18	55.20	55.89	111.09
Birch, white	2,441		17,354.46	17,354.46	104.12	131.87	235.99
Pine, jack	123,610		567,498.36	567,498.36	13,336.89	3,249.88	16,586.77
Pine, red	45,551		248,340.45	248,340.45	8,195.24	7,726.22	15,921.46
Pine, white	62,791		589,582.67	589,582.67	19,456.25	18,911.64	38,367.89
Poplar	6,498		43,857.16	43,857.16	263.15	335.85	599.00
Spruce	47,285		346,723.60	346,723.60	11,441.90	1,990.60	13,432.50
Total Sawlogs	288,739		1,816,701.88	1,816,701.88	52,852.75	32,401.95	85,254.70
<b>Boom Timber, Piling, Poles Boom and Dimension Timber</b>							
Pine, jack	42		694.79	694.79	30.97	12.12	43.09
Pine, red	23		1,032.59	1,032.59	58.99	30.98	89.97
Spruce	90		2,440.28	2,440.28	128.69	22.37	151.06

Cedar	133	1,283.14	48.23	31.20	79.43
Hemlock	20	78.60	2.36	3.93	6.29
Pine, jack	57	1,400.32	77.55	18.59	96.14
Pine, red	115	4,006.01	231.32	40.06	271.38
Pine, white	13	359.63	20.81	3.60	24.41
Spruce	41	615.88	24.64	19.56	44.20
Total boom timber, piling, poles	534	11,911.24	623.56	182.41	805.97
Total cubic foot measure	289,273	1,828,613.12	53,476.31	32,584.36	86,060.67
<b>Cordage</b>					
Pulpwood					
Balsam	1,990.35	169,179.75	3,013.79	1,145.62	4,159.41
Birch, white	2,661.03	226,187.55	1,330.54	1,144.82	2,475.36
Birch, yellow	97.00	8,245.00	48.50	34.00	82.50
Maple	47.20	4,012.00	23.60	20.12	43.72
Pine, jack	51,325.02	4,362,626.70	114,650.04	832.12	115,482.16
Pine, red	504.36	42,870.60	706.10	1,376.72	2,082.82
Pine, white	269.42	22,900.70	377.18	408.99	786.17
Poplar	7,243.10	615,663.50	3,621.56	3,099.20	6,720.76
Spruce	12,913.95	1,097,685.75	36,159.07	1,952.64	38,111.71
Total pulpwood	77,051.43	6,549,371.55	159,930.38	10,014.23	169,944.61
Fuelwood					
Hardwood	1,494.00	126,990.00	747.00	20.00	767.00
Softwood	61.00	5,185.00	30.50	.50	31.00
Total fuelwood	1,555.00	132,175.00	777.50	20.50	798.00
Total cordage	78,606.43	6,681,546.55	160,707.88	10,034.73	170,742.61
<b>Miscellaneous</b>					
Posts — lin. ft.					
Cedar	1,809	13,580	2,716.00	135.80	264.64
Mining Timber — cu. ft.					
Pine, jack	2,053	8,137.00	326.48	326.48	326.48
Pine, red	5	63.75	1.05	2.14	3.19
Pine, white	4	54.40	.90	1.82	2.72
Poplar	2,000	35.70	20.00	20.00	40.00
Spruce	1,699	6,834.00	273.46	18.82	292.28
Total miscellaneous	7,570	17,840.85	757.69	307.42	1,065.11
Total Ontario scale	126,036	1,772,843.36	43,884.76	53,106.98	96,991.74
Total cubic foot measure	289,273	1,828,613.12	53,476.31	32,584.36	86,060.67
Total cordage	78,606.43	6,681,546.55	160,707.88	10,034.73	170,742.61
Grand total	422,879	10,300,843.88	258,826.64	96,033.49	354,860.13
<b>Number of permits issued and included in above —</b>					
Conversion factor — Ontario Scale to cubic foot measure —	252	5.35			17,305.57
Conversion factor — cordage to cubic foot measure —	85				

# SWASTIKA

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Pine, jack	483,982		12,151,957	2,271,393.82	\$ 48,607.83	\$ 14,666.95	\$ 63,274.78
Pine, red	6,391		429,372	80,256.45	2,146.87	3,121.43	5,268.30
Pine, white	36,823		3,458,373	646,424.86	17,291.88	20,621.66	37,913.54
Spruce	14,533		559,981	104,669.34	2,239.92	1,612.70	3,852.62
Total Ontario Scale	541,679		16,599,683	3,102,744.47	70,286.50	40,022.74	110,309.24
<b>Cubic Foot Measure</b>							
<b>Sawlogs</b>							
Birch, white	4,578		36,234.60	36,234.60	217.41	36.23	253.64
Pine, jack	828,023		4,175,260.84	4,175,260.84	99,866.60	83,895.31	183,761.91
Poplar	88,957		620,915.18	620,915.18	3,725.49	4,643.58	8,369.07
Spruce	212,486		1,196,924.03	1,196,924.03	39,498.49	12,292.82	51,791.31
Total Sawlogs	1,134,044		6,029,334.65	6,029,334.65	143,307.99	100,867.94	244,175.93
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Spruce	459		6,813.06	6,813.06	284.09	68.12	352.21
Poles							
Pine, jack	601		9,698.73	9,698.73	428.97	270.44	699.41
Spruce	55		731.63	731.63	28.80	21.95	50.75
Total Boom Timber, Piling, Poles	1,115		17,243.42	17,243.42	741.86	360.51	1,102.37
Total Cubic Foot Measure	1,135,159		6,046,578.07	6,046,578.07	144,049.85	101,228.45	245,278.30
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		4,743.49		403,196.65	6,640.89	2,280.53	8,921.42
Pine, jack		4,157.54		353,390.90	8,315.08	404.17	8,719.25
Poplar		3,803.52		323,299.20	1,901.77	799.20	2,700.97
Spruce		46,229.58		3,929,514.30	129,442.80	23,618.06	153,060.86
Total Pulpwood		58,934.13		5,009,401.05	146,300.54	27,101.96	173,402.50



<b>Fuelwood</b>						
Hardwood	1,248.89	106,155.65	624.44	624.44		624.44
Softwood	290.99	24,734.15	145.49	145.49		145.49
<b>Total Fuelwood</b>	1,539.88	130,889.80	769.93	769.93		769.93
<b>Bolts</b>						
Birch, white	481.13	40,896.05	240.56	453.65		694.21
Poplar	6,213.98	528,188.30	3,107.01	3,910.01		7,017.02
<b>Total Bolts</b>	6,695.11	569,084.35	3,347.57	4,363.66		7,711.23
<b>Total Cordage</b>	67,169.12	5,709,375.20	150,418.04	31,465.62		181,883.66
<b>Miscellaneous</b>						
Posts — lin. ft.						
Cedar	6,842	52,373	523.73			523.73
<b>Mining Timber — cu. ft.</b>						
Spruce	194	2,326.45	76.64	8.21		84.85
Total miscellaneous	7,036	12,801.05	600.37	8.21		608.58
Total Ontario Scale	541,679	3,102,744.47	70,286.50	40,022.74		110,309.24
Total cubic foot measure	1,135,159	6,046,578.07	144,049.85	101,228.45		245,278.30
Total cordage	67,169.12	5,709,375.20	150,418.04	31,465.62		181,883.66
<b>Grand total</b>	1,683,874	14,871,498.79	365,354.76	172,725.02		538,079.78

Number of permits issued and included in above — 312  
Conversion factor — Ontario scale to cubic foot measure — 5.35  
Conversion factor — cordage to cubic foot measure — 85

61,947.07

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SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
					\$	\$	\$
<b>Board Foot Measure</b>							
<b>Ontario Scale</b>							
Ash	1,887		76,751	14,345.98	383.82	312.59	696.41
Balsam	13,288		313,108	58,524.86	1,252.43	1,759.78	3,012.21
Basswood	25,833		1,599,546	298,980.56	7,997.84	8,900.13	16,897.97
Beech	11,287		591,375	110,537.38	887.04	2,457.86	3,344.90
Birch, white	14,446		470,806	88,001.12	706.21	2,141.17	2,847.38
Birch, yellow	6,047		370,896	69,326.35	1,854.56	4,571.25	6,425.81
Butternut	90		11,583	2,165.05	17.38	63.71	81.09
Cedar	6,764		133,622	24,976.07	400.92	548.08	949.00
Cherry	199		7,611	1,422.62	38.09	83.30	121.39
Elm	3,750		312,381	58,388.97	1,561.97	911.30	2,473.27
Hemlock	14,901		877,449	164,009.16	2,632.36	3,417.95	6,050.31
Maple	66,208		5,095,862	952,497.57	25,479.42	21,826.06	47,305.48
Oak	14,097		698,215	130,507.48	3,491.14	2,915.36	6,406.50
Pine, red	12,405		555,511	103,833.83	2,777.61	4,023.50	6,801.11
Pine, white	90,735		4,994,857	933,618.13	24,974.39	41,431.91	66,406.30
Poplar	52,419		2,192,972	409,901.31	3,289.50	8,307.49	11,596.99
Spruce	28,062		1,298,161	242,646.91	5,192.63	11,213.47	16,406.10
Tamarack	314		8,458	1,580.93	25.37	39.23	64.60
Total Ontario Scale	362,732		19,609,164	3,665,264.28	82,962.68	114,924.14	197,886.82
<b>Cubic Foot Measure</b>							
<b>Boom Timber, Piling, Poles</b>							
<b>Boom and Dimension Timber</b>							
Balsam	107		783.98	783.98	24.28	15.55	39.83
Cedar	02		37.63	37.63	1.50	.76	2.26
Pine, red	15		336.50	336.50	16.70	10.10	26.80
Pine, white	18		424.21	424.21	11.45	23.76	35.21
Spruce	126		1,511.04	1,511.04	54.24	54.38	108.62
<b>Poles</b>							
Balsam	07		99.35	99.35	3.97	1.99	5.96
Cedar	13		197.42	197.42	8.11	3.94	12.05
Hemlock	31		827.61	827.61	43.62	16.56	60.18

Pine, white	08	143.07	6.38	2.87	9.25
Spruce	18	359.01	16.55	7.18	23.73
Total boom timber, piling, poles	345	4,719.82	186.80	137.09	323.89
Total cubic foot measure	345	4,719.82	186.80	137.09	323.89
<b>Cordage</b>					
<b>Pulpwood</b>					
Ash		136.08			
Balsam		2,324.54	11,566.80	68.11	103.55
Basswood		38.78	197,585.00	3,254.36	4,477.01
Beech		1,317.58	3,296.30	19.38	29.07
Birch, white		1,745.98	111,994.30	658.82	998.56
Birch, yellow		1.93	148,408.30	872.99	1,299.21
Elm		270.84	164.05	.97	1.16
Hemlock		71.73	23,021.40	135.43	205.89
Maple		1,672.35	6,097.05	100.42	124.71
Oak		96.41	142,149.75	836.18	1,227.63
Pine, white		65.47	8,194.85	48.20	73.68
Poplar		9,240.78	5,564.95	91.66	2.21
Spruce		819.50	785,466.30	4,620.41	2,313.68
Tamarack		11.57	69,657.50	2,294.59	2,473.57
Total pulpwood		17,813.54	983.45	16.19	21.60
			1,514,150.90	13,017.71	5,045.89
<b>Fuelwood</b>					
Hardwood		246.56			
Total fuelwood		246.56	20,957.60	123.28	55.88
Total cordage		18,060.10	20,957.60	123.28	55.88
			1,535,108.50	13,140.99	5,101.77
<b>Miscellaneous</b>					
<b>Posts</b>					
Cedar	2,219		18,196		
			3,639.20	181.96	181.96
Total miscellaneous	2,219		3,639.20	181.96	181.96
Total Ontario Scale	362,732	19,609.164	3,665,264.28	82,962.68	197,886.82
Total cubic foot measure	345	4,719.82	4,719.82	137.09	323.89
Total cordage		18,060.10	1,535,108.50	5,101.77	18,242.76
Grand total	365,296	18,060.10	5,208,731.80	120,163.00	216,635.43
Number of permits issued and included in above — 199					
Conversion factor — Ontario Scale and cubic foot measure — 5.35					
Conversion factor — cordage to cubic foot measure — 85					
72,499.54					

# WHITE RIVER

## SUMMARY OF VOLUME AND VALUE OF TIMBER CUT DURING PERIOD APRIL 1, 1963 TO MARCH 31, 1964

Species	Pieces	Cords	Feet	Equivalent in cu. ft.	Dues	Bonus	Stumpage Value
<b>Cubic Foot Measure</b>					\$	\$	\$
<b>Sawlogs</b>							
Balsam	197		1,951.50	1,951.50	32.20	19.47	51.67
Birch, white	5,368		49,337.89	49,337.89	296.03	2,244.82	2,540.85
Pine, jack	195,330		2,660,204.82	2,660,204.82	62,514.82	17,342.13	79,856.95
Poplar	883		8,473.40	8,473.40	50.84	188.75	239.59
Spruce	49,830		568,086.35	568,086.35	18,746.85	1,923.21	20,670.06
Total Sawlogs	251,608		3,288,053.96	3,288,053.96	81,640.74	21,718.38	103,359.12
<b>Boom Timber, Piling, Poles Room and Dimension Timber</b>							
Spruce	109		962.22	962.22	31.70	1.13	32.83
Total boom timber, piling, poles	109		962.22	962.22	31.70	1.13	32.83
Total cubic foot measure	251,717		3,289,016.18	3,289,016.18	81,672.44	21,719.51	103,391.95
<b>Cordage</b>							
<b>Pulpwood</b>							
Balsam		6,905.88		586,999.80	9,668.23	819.68	10,487.91
Pine, jack		11,349.73		964,727.05	22,699.46	1,134.99	23,834.45
Poplar		19.30		1,640.50	9.65	1.93	11.58
Spruce		82,068.90		6,975,856.50	229,792.92	19,164.15	248,957.07
Total pulpwood		100,343.81		8,529,223.85	262,170.26	21,120.75	283,291.01
<b>Fuelwood</b>							
Hardwood		35.00		2,975.00	17.50	17.50	35.00
Softwood		59.59		5,065.15	29.80	28.00	57.80
Total Fuelwood		94.59		8,040.15	47.30	45.50	92.80
Total Cordage		100,438.40		8,537,264.00	262,217.56	21,166.25	283,383.81



Miscellaneous		Posts — lin. ft.							
	Cedar	31	250	50.00	2.50	2.50	5.00		
	Pine, jack	2,115	11,037	2,207.40	110.37	110.37	220.74		
	Spruce	600	7,550	1,510.00	75.50	75.50	151.00		
Tie Blocks — cu. ft.									
	Pine, jack	13,948	61,488.15	61,488.15	1,444.97	399.67	1,844.64		
Mining Timber — cu. ft.									
	Spruce	7,123	5,743.02	5,743.02	189.52	263.06	452.58		
Total miscellaneous		23,817		70,998.57	1,822.86	851.10	2,673.96		
Total cubic foot measure		251,717	3,289,016.18	3,289,016.18	81,672.44	21,719.51	103,391.95		
Total cordage			100,438.40	8,537,264.00	262,217.56	21,166.25	283,383.81		
Grand total		275,534	100,438.40	11,897,278.75	345,712.86	43,736.86	389,449.72		
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Number of permits issued and included in above —				32			1,279.72		
Conversion factor — Ontario Scale to cubic foot measure —				—	5.35				
Conversion factor — cordage to cubic foot measure —				—	85				

CROWN TIMBER LICENCES 1964-65  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date		Description of Area	Name of Licensee	Expiry Date	Type of Transaction
1127/64	Apl. 9/64	Parts Yates, Torrington, Phyllis and Vogt Townships	John B. Smith & Sons Ltd., 53 Strachan Ave., Toronto, Ontario	March 31st, 1972	Re-issue
1128/64	Apl. 9/64	Part Strathy Township	Temagami Timber Co., Ltd., Goward, Ontario	March 31st, 1966	Re-issue
1129/64	Apl. 9/64	Part Patricia Portion, Cochrane District	Lac Seul Land & Lumber Co., Ltd., Port Arthur, Ontario	March 31st, 1964	Re-issue
1130/64	Apl. 9/64	Part Gillies Limit	Grant and Wilson, New Liskeard, Ontario	March 31st, 1966	Re-issue
1131/64	Apl. 9/64	Parts Bruton and Clyde Twps.	Hay and Company Ltd., Woodstock, Ontario	March 31st, 1972	Merger
1161/64	Apl. 9/64	Part Manning Twp.	Chapleau Lumber Co., Ltd., Chapleau, Ontario	March 31st, 1965	Merger
1241/64	Apl. 23/64	Part Coppell Twp.	Paul Lahaie, Ltd., P.O. Box 204, Foleyet, Ontario	March 31st, 1965	New transaction
1244/64	Apl. 23/64	Parts Shelburne, Canton, and Medina Twps.	A. J. Murphy Lumber Co., Ltd., Latchford, Ontario	March 31st, 1972	Re-issue
1295/64	Apl. 23/64	Part Patricia Concession, Ontario-Minnesota	Bruce Campbell, Quibell, Ontario	March 31st, 1965	New transaction
1296/64	Apl. 23/64	Parts Massey and Cote Twps.	Marlette Lumber Ltd., 373 Commercial Ave., Timmins, Ont.	March 31st, 1965	New transaction
1310/64	Apl. 30/64	Part Griffith and Lyndoch Twp.	Leonard John Gulick, Palmer Rapids, Ontario	March 31st, 1967	New transaction
1311/64	Apl. 30/64	Part Leeson Twp.	Missinabi Mills Ltd., 825 Eglinton Ave., Toronto, Ontario	March 31st, 1965	Re-issue
1445/64	May 7/64	Parts Jones and McNish Twps.	Louis Brun, Field, Ontario	March 31st, 1965	New transaction

1449/64	May	7/64	Parts Griffith and Lyndock Twps.	August E. Quade, Quadeville, Ontario	March 31st, 1967	New transaction
1638/64	May	28/64	Parts Glen and McMaster Twps.	Northern Plywoods Ltd., Nipigon, Ontario	March 31st, 1965	New transaction
1651/64	May	28/64	Florence Lake Area	G. A. Querel, Vermillion Bay, Ontario	March 31st, 1965	New transaction
1652/64	May	28/64	Part Charlton Twp.	J. B. Smith & Sons Ltd., 55 Strachan Ave., Toronto, Ontario	March 31st, 1967	Re-issue
1694/64	June	3/64	Parts Marriott and Stoughton Twps. (Abitibi-Iroquois Falls)	J. H. Normick Ltd., La Sarre, Quebec	March 31st, 1965	New transaction
1695/64	June	3/64	Area West of Gus Lake (Ontario- Minnesota Patricia Concession)	H. Gonske, Quibell, Ontario	March 31st, 1965	New transaction
1696/64	June	3/64	Islands in Sabaskong Bay, Lake of the Woods	Dalseg's Limited, Morson, Ontario	March 31st, 1965	New transaction
1697/64	June	3/64	Part Stover Twp.	Missinabi Mills Ltd., 825 Eglinton Ave., Toronto 10, Ontario	March 31st, 1967	New transaction
1739/64	June	3/64	Part Halloway Twp. (Abitibi Power & Paper-Iroquois Falls Concession)	Howard-Bienvenu Inc., La Sarre, Quebec	March 31st, 1965	New transaction
1741/64	June	3/64	Part Lyman Twp.	Joseph Sevigny, 1723 Algonquin Ave., North Bay, Ontario	March 31st, 1967	Re-issue
1742/64	June	3/64	Area West of Big Handel Lake O & M, Patricia Concession	Charles Jones, Red Lake Road, Ontario	March 31st, 1965	New transaction
1783/64	June	11/64	Part Dunmore Twp.	H. S. Rodgers Lumber Co., Englehart, Ontario	March 31st, 1969	New transaction
1827/64	June	11/64	Part Griesinger Twp.	Horace Bowes, 1323 Fifth Street E., Fort Frances, Ontario	March 31st, 1967	New transaction
1857/64	June	11/64	Part Morrisette Twp.	Grant and Wilson, New Liskeard, Ontario	March 31st, 1965	Re-issue
1952/64	June	18/64	Ord Lake and Shoe Lake Areas	Rene Ross, Red Lake Road, Ontario	March 31st, 1965	New transaction
1953/64	June	18/64	Parts Hardwick and Lismore Twps.	Oscar Styffe Ltd., Port Arthur, Ontario	March 31st, 1967	Re-issue

CROWN TIMBER LICENCES 1964-65  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date		Description of Area	Name of Licensee	Expiry Date	Type of Transaction
1960/64	June 25/64	Parts Afton and Sheppard Twp.	H. P. Lamoth Lumber Co., Ltd., 347 Sherbrooke St., North Bay, Ontario	March 31st, 1965	New transaction
2068/64	July 9/64	Twp. 9H	Sheppard & Morse Ltd., Chapleau, Ontario	March 31st, 1974	New transaction
2073/64	July 9/64	Pashkokogan River, Thunder Bay	Great Lakes Paper Co., Ltd., Fort William, Ontario	March 31st, 1965	New transaction
2137/64	July 9/64	Parts District of Kenora, Kenora- Patricia Portion and Thunder Bay	The Great Lakes Paper Co., Ltd., Fort William, Ontario	March 31st, 1969	New transaction
2209/64	July 16/64	Part Jamieson Twp.	Leo Ouelette, 536 Eyre Blvd., Timmins, Ontario	March 31st, 1965	New transaction
2211/64	July 16/64	Part Territorial District of Thunder Bay	Abitibi Power & Paper Co., Ltd., 408 University Ave., Toronto, Ontario	March 31st, 1965	New transaction
2212/64	July 16/64	Part Territorial District of Kenora	Joseph Kirouac, Red Lake Road, Ontario	March 31st, 1965	New transaction
2213/64	July 16/64	Part Fallis Township	Abitibi Power & Paper Co., Ltd., 408 University Ave., Toronto, Ontario	March 31st, 1965	New transaction
2252/64	July 23/64	Part Robb Township	Jamar Plywood Ltd., Kirkland Lake, Ontario	March 31st, 1965	New transaction
2253/64	July 23/64	Little Handle Lake and Blair Lake Area	Robert Cunningham, Vermillion Bay, Ontario	March 31st, 1965	New transaction
2254/64	July 23/64	Part Dunmore Township	H. S. Rodgers Lumber Co., Ltd., Englehart, Ontario	March 31st, 1967	Re-issue
2255/64	July 23/64	Part Calder and Lennox Twp.	M. J. Labelle Co., Ltd., Cochrane, Ontario	March 31st, 1967	Re-issue
2258/64	July 23/64	Part Mulligan Twp.	Sam Mitchell, Englehart, Ontario	March 31st, 1966	Re-issue



2259/64	July 23/64	Area North of Tustin Twp.	Rathwell Lumber Ltd., Dryden, Ontario	March 31st, 1968	New transaction
2260/64	July 23/64	Twps. of Preston and Airy	Ambrose Zilney, Madawaska, Ontario	March 31st, 1965	New transaction
2371/64	July 30/64	Ord Creek Area	Lucien Legault, Box 734, Dryden, Ontario	March 31st, 1965	New transaction
2372/64	July 30/64	Part Clifford Township	Woollings Forest Products Ltd., Englehart, Ontario	March 31st, 1965	New transaction
2381/64	July 30/64	Aylmer Lake Area	Maurice Ouellette, Box 1183, Dryden, Ontario	March 31st, 1965	New transaction
2382/64	July 30/64	Part Aberdeen Twp.	Peter Shannon Asam, Rydal Bank, Ontario	March 31st, 1967	Re-issue
2383/64	July 30/64	Part Phelps Twp.	James A. Gibson & Sons, Redbridge, Ontario	March 31st, 1967	Re-issue
2402/64	July 30/64	Part Davis Twp.	Isidore Roy, 175 Front Street, Sturgeon Falls, Ontario	March 31st, 1965	New transaction
2488/64	Aug. 13/64	Parts Charlton, Grant and Lyman Twps.	W. Davidson Lumber Co., Sturgeon Falls, Ontario	March 31st, 1965	New transaction
2532/64	Aug. 13/64	Parts Edgar, Barron, Guthrie, White, Niven, Clancy, Bronson, and Stratton Twps.	Phillip Cooper, 260 Rosewood Ave., Pembroke, Ontario	March 31st, 1973	New transaction
2584/64	Aug. 20/64	Part Charlton Twp.	John B. Smith & Sons, Ltd., 55 Strachan Ave., Toronto, Ontario	March 31st, 1965	New transaction
2585/64	Aug. 20/64	Part Clive Twp.	J. H. Normick Ltd., La Sarre, Quebec	March 31st, 1965	New transaction
2742/64	Sept. 3/64	Part Wells Twp.	W. E. Ansley & Son, Thessalon, Ontario	March 31st, 1967	New transaction
2743/64	Sept. 3/64	Part Rogers Twp.	Lecours Lumber Co., Calstock, Ontario	March 31st, 1967	New transaction
2933/64	Sept. 17/64	Schedule A	KVP Company Ltd., Espanola, Ontario	March 31st, 1985	Re-issue
2933/64	Sept. 17/64	Schedule A	Pineland Timber Co., Ltd., Sudbury, Ontario	March 31st, 1985	Re-issue

CROWN TIMBER LICENCES 1964-65  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date	Description of Area	Name of Licensee	Expiry Date	Type of Transaction
2937/64	Sept. 17/64 Part Sheppard Twp.	H. P. Lamothe Lumber Ltd., 347 Sherbrooke St., North Bay, Ont.	March 31st, 1965	New transaction
2943/64	Sept. 17/64 Part Stratton Twp., Schedule "A"	Consolidated Paper Corp. Ltd., Pembroke, Ontario	March 31st, 1966	New transaction
3084/64	Oct. 1/64 Parts Blount and Laughton Twps.	George W. Skidmore, Brower, Ontario	March 31st, 1966	New transaction
3130/64	Oct. 1/64 Ash Bay Area, Rainy Lake	Vernon Armstrong, 601 Third St. W., Fort Frances, Ontario	March 31st, 1966	New transaction
3133/64	Oct. 1/64 Parts Stewart and Merrick Twps.	James Gibson & Sons, Ltd., Box 734, North Bay, Ontario	March 31st, 1965	New transaction
3184/64	Oct. 1/64 Schedule A	Hay & Company Ltd., Woodstock, Ontario	March 31st, 1972	New transaction
3198/64	Oct. 8/64 Parts White and Fitzgerald Twps.	Pembroke Lumber Co., Ltd., Pembroke, Ontario	March 31st, 1967	New transaction
3201/64	Oct. 8/64 West of Hardwick Twp.	Northern Forest Products Ltd., Box 990, Port Arthur, Ontario	March 31st, 1966	New transaction
3205/64	Oct. 8/64 Part Twp. 22, Range XVIII and part 11H	Island Lake Lumber Co., Ltd., Chapleau, Ontario	March 31st, 1965	New transaction
3206/64	Oct. 8/64 Area North of Rogers Twp.	Gosselin Brothers, Hearst, Ontario	March 31st, 1967	New transaction
3207/64	Oct. 8/64 Part Mulock Twp.	Weyerhaeuser Canada Ltd., Box 400, Mattawa, Ontario	March 31st, 1965	New transaction
3241/64	Oct. 8/64 Twp. 25, Range XV and XVI	Pick Timber Co., Ltd., Sault Ste. Marie, Ontario	March 31st, 1969	New transaction
3242/64	Oct. 8/64 Part Oakley Twp.	Boyes Brothers, Vankoughnet, Ontario	March 31st, 1967	New transaction

3244/64	Oct.	8/64	East of Miles Bay, Lake of the Woods	W. Norman Dalseg, Morson, Ontario	March 31st, 1968	New transaction
3298/64	Oct.	15/64	Part Hawkins Twp.	Oba River Timber Co., Ltd., Box 487, Hearst, Ontario	March 31st, 1965	New transaction
3355/64	Oct.	22/64	Parts Frecheville, Halloway, Harker and Lamplugh Twps.	Howard-Bienvenu Inc., La Sarre, Quebec	March 31st, 1965	New transaction
3359/64	Oct.	22/64	Part Beniah Twp.	Henry Swanson & Sons, Ltd., Box 1290, Cochrane, Ontario	March 31st, 1965	New transaction
3505/64	Oct.	29/64	Redgut Bay and Porter Inlet, Rainy Lake	Vic Pearson and Sons, Ltd., Box 113, Fort Frances, Ontario	March 31st, 1967	New transaction
3539/64	Nov.	5/64	Parts Niven and White Twps.	Herb Shaw and Sons, Ltd., 137 McKay Street, Pembroke, Ontario	March 31st, 1967	New transaction
3540/64	Nov.	5/64	Part Bannerman Twp.	Maurice Lecours, Box 1000, Hearst, Ontario	March 31st, 1965	New transaction
3638/64	Nov.	12/64	Part Charlton Twp.	John B. Smith & Sons, 55 Strachan Ave., Toronto, Ontario	March 31st, 1965	New transaction
3715/64	Nov.	19/64	Part Twps. of Clancy, Dickens, Guthrie and Murchison, Burns, Jones and Sherwood	Murray J. Daly, Barry's Bay, Ontario	March 31st, 1972	Re-issue
3717/64	Nov.	19/64	Part Sharpe Twp.	Woollings Forest Products Ltd., Englehart, Ontario	March 31st, 1969	New transaction
3718/64	Nov.	19/64	Part Carscallen Twp.	Feldman Timber Co., Ltd., Timmins, Ontario	March 31st, 1965	New transaction
3755/64	Nov.	26/64	Part Bower Twp.	Hogan Lake Timber Ltd., Pembroke, Ontario	March 31st, 1966	New transaction
3834/64	Nov.	26/64	Parts Brudenell and Lyndoch Twps.	August Quade, Quadville, Ontario	March 31st, 1967	Merger
3836/64	Nov.	26/64	Part Clive and Adair Twp., Abitibi-Iroquois Falls	J. H. Normick Ltd., La Sarre, Quebec	March 31st, 1965	New transaction
3868/64	Nov.	26/64	Part Livingstone Twp.	W. W. Purdy Lumber Co., 757 Water St., Peterborough, Ontario	March 31st, 1966	Re-issue
3871/64	Nov.	26/64	Part Davidson and Willison Twp., Englehart Management Unit	Grant Lumber Co., Ltd., New Liskeard, Ontario	March 31st, 1968	New transaction

CROWN TIMBER LICENCES 1964-65  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date		Description of Area	Name of Licensee	Expiry Date	Type of Transaction
3985/64	Dec. 3/64	Unsurveyed Area in the District of Rainy River	Milan Mrakic, Sapawe, Ontario	March 31st, 1965	New transaction
4009/64	Dec. 10/64	Part Melba Twp.	Woollings Forest Products, Englehart, Ontario	March 31st, 1965	New transaction
4010/64	Dec. 10/64	Part Dickson Twp.	Murray Brothers Lumber Co., Ltd., Barry's Bay, Ontario	March 31st, 1967	New transaction
4074/64	Dec. 10/64	Part Ridout Twp., Bracebridge M.U.	Anthony Forgoine, Bracebridge, Ontario	March 31st, 1966	New transaction
4100/64	Dec. 17/64	Parts Chesley, Additional, and Aberdeen Twp.	John O. Mcleod and Sons, Leeburn, Ontario	March 31st, 1967	New transaction
4161/64	Dec. 17/64	Part McCraney Twp.	Peter Thompson & Sons, Alliston, Ontario	March 31st, 1966	Re-issue
4162/64	Dec. 17/64	Part Booth Twp.	Great Lakes Paper Co., Ltd., Fort William, Ontario	March 31st, 1965	New transaction
12/65	Jan. 7/65	Parts Hele and McMaster Twps.	Buchanan Brothers, P.O. Box 249, Red Rock, Ontario	March 31st, 1965	New transaction
13/65	Jan. 7/65	Schedule A and B	John W. Fogg, Cochrane, Ontario	March 31st, 1973	Re-issue
59/65	Feb. 18/65	Area West of Ena Lake	Frank Peterson, Box 358, Kenora, Ontario	March 31st, 1966	New transaction
125/65	Jan. 14/65	Part of Pardo Twp., Schedules A and B	H. P. Lamothe Lumber Co., Ltd., 347 Sherbrooke Street, North Bay, Ontario	March 31st, 1965	New transaction
127/65	Jan. 14/65	Part Sadler and Patterson Twp.	J. E. Martel and Sons Lumber Ltd., Chapleau, Ontario	March 31st, 1970	New transaction
128/65	Jan. 14/65	Parts Furnish and McNiven Twps.	Edward Smith, Dymont, Ontario	March 31st, 1967	Re-issue



129/65	Jan.	14/65	Unsurveyed Territory North of Rowell Twp.	Dryden Paper Company Ltd., Dryden, Ontario	March 31st, 1970	Merger
130/65	Jan.	14/65	Unsurveyed Territory in District of Rainy River	W. T. Gaudry, Rainy River, Ontario	March 31st, 1966	New transaction
233/65	Jan.	21/65	Unsurveyed area West of Grand Trunk Pacific Block No. 1	J. F. Thomson Timber Ltd., Rutton Block, Port Arthur, Ontario	March 31st, 1967	Re-issue
238/65	Jan.	21/65	Part of Head Twp.	H. Kutschke and Son, Ltd., Pembroke, Ontario	March 31st, 1965	New transaction
299/65	Jan.	28/65	Parts Keefer, Crothers, Robbins Twps.	Rudolph McChesney Lumber Co., Ltd., Timmins, Ontario	March 31st, 1973	Re-issue
351/65	Jan.	28/65	White and Fitzgerald Twps.	Pembroke Lumber Co., Ltd., Pembroke, Ontario	March 31st, 1967	New transaction
412/65	Feb.	4/65	Bartlett English Hutt Twps.	A. E. Wicks Ltd., Cochrane, Ontario	March 31st, 1973	Re-issue
515/65	Feb.	11/65	Part Unsurveyed Territory, Rainy River	J. A. Bliss, Mine Centre, Ontario	March 31st, 1967	New transaction
608/65	Feb.	18/65	Part Sewell Twp.	Leo Lapierre, 418 Wilson Ave., Timmins, Ontario	March 31st, 1967	New transaction
617/65	Feb.	18/65	Part Hardy Mills Pringle Twps.	Odorizzi Lumber Co., Ltd., Golden Valley, Ontario	March 31st, 1967	Re-issue
766/65	Mch.	4/65	Part Beemer Twp., All Moher and Nursery Twps.	Feldman Timber Co., Ltd., Timmins, Ontario	March 31st, 1973	Re-issue
769/65	Mch.	4/65	Part Balmer Twp.	Campbell Red Lake Mines Ltd., Suite 702-360, Bay Street, Toronto 1, Ontario	March 31st, 1967	Re-issue
770/65	Mch.	4/65	Part Burpee and Ferguson Twps.	Bert Taylor, Parry Sound, Ontario	March 31st, 1969	New transaction
771/65	Mch.	4/65	Unsurveyed Territory South of Bennett Twp.	Seine River Tourist and Timber Ltd., Crilly, Ontario	March 31st, 1967	New transaction
779/65	Mch.	4/65	Part Strathy Twp.	William Milne and Sons Ltd., Timagami, Ontario	March 31st, 1966	Re-issue
812/65	Mch.	4/65	Schedule A and B	Weyerhaeuser Canada Ltd., Sault Ste. Marie, Ontario	March 31st, 1972	Merger

CROWN TIMBER LICENCES 1964-65  
ISSUED BY VIRTUE OF SECTION 3 (1) C.T.A.

Order-in-Council Date		Description of Area	Name of Licensee	Expiry Date	Type of Transaction
876/65	Mch. 11/65	Part Ballantyne Twp.	Edgar C. White Co., Ltd., South River, Ontario	March 31st, 1967	New transaction
942/65	Mch. 11/65	Part Hagerman Twp.	F. J. Hulton, Parry Sound, Ontario	March 31st, 1969	New transaction
943/65	Mch. 11/65	Part Niven Twp.	Max W. Miller and Sons, Ltd., Box 136, Eganville, Ontario	March 31st, 1966	New transaction
999/65	Mch. 18/65	Part Territory East of Glass Twp.	Devlin Timber Co., Ltd., 59 Drewry Dr., Kenora, Ontario	March 31st, 1967	New transaction
1014/65	Mch. 18/65	Part Auden Twp.	Lecours Lumber Co., Calstock, Ontario	March 31st, 1969	New transaction
1015/65	Mch. 18/65	Part Auden and Gill Twps.	Gosselin Brothers, Hearst, Ontario	March 31st, 1969	New transaction
1105/65	Apr. 1/65	Area North Lomand Twp.	Frank W. Bowman, 707 Bickerton Court, 250 Douglas Avenue, Victoria, B.C.	March 31st, 1967	Re-issue
1109/65	Apr. 2/65	Unsurveyed Territory East Pakwash Lake	Chukuni Lumber Co., Ltd., Ear Falls, Ontario	March 31st, 1974	Re-issue
1110/65	Apr. 2/65	Part Balmer Twp.	Dickenson Mines Ltd., Suite 416, 25 Adelaide St. W., Toronto, Ont.	March 31st, 1967	Re-issue
1128/65	Apr. 1/65	Part Aubin, Nesbitt, Crawford, Lucas, Kidd, Twps.	Abitibi Power and Paper Co., 408 University Ave., Toronto 2, Ont.	March 31st, 1967	New transaction
1151/65	Apr. 1/65	Twp. 150, 156	Weyerhaeuser Canada Ltd., Sault Ste. Marie, Ontario	March 31st, 1968	New transaction
1191/65	Apr. 1/65	Unsurveyed Area near Umfreville Lake	Metal Mines Ltd., Suite 1600, 100 Adelaide St., Toronto 1, Ontario	March 31st, 1966	New transaction
1207/65	Apr. 8/65	Part McIlraith Twp. and Unsurveyed Territory North	Lac Seul Land and Lumber Co., Ltd., Port Arthur, Ontario	March 31st, 1967	New transaction

1208/65	Apr. 8/65	Part Godfrey Twp.	Feldman Timber Co., Ltd., Timmins, Ontario	March 31st, 1968	Re-issue
1256/65	Apr. 29/65	All Bernhardt and Parts Black Gauthier Twps.	Grant and Wilson, c/o Grant and Wilson Lumber Ltd., Swastika, Ontario	March 31st, 1968	Re-issue
1367/65	Apr. 22/65	Part Selkirk, McLeod, and Ellis Twps.	Cockburn Lumber Ltd., General Delivery, Capreol, Ontario	March 31st, 1969	Re-issue
1368/65	Apr. 22/65	Part Eldorado Twp.	Rudolph McChesney Lumber Co., Ltd., Timmins, Ontario	March 31st, 1968	Re-issue
1369/65	Apr. 22/65	Part Hindon Twp.	Alva Thompson and Sons Ltd., Clear Lake P.O., Ontario	March 31st, 1966	New transaction
1707/65	May 13/65	Parts Flavelle and Willison Twps.	Wilfred Paiement, Earlton, Ontario	March 31st, 1968	New transaction
1837/65	May 27/65	Part Bennett Twp.	Peters and White, R.R. # 1, Fort Frances, Ontario	March 31st, 1967	New transaction
1839/65	May 27/65	Unsurveyed Territory, District of Kenora	Rene Ross, Red Lake Road, Ontario	March 31st, 1966	New transaction
1841/65	May 27/65	Part of Beniah Twp.	Henry Swanson and Sons Ltd., Box 1290, Cochrane, Ontario	March 31st, 1967	New transaction
1893/65	May 27/65	Part Janes and McNish Twps.	Louis Brun, Field, Ontario	March 31st, 1966	New transaction
1894/65	May 27/65	Territorial District of Kenora	Joseph Kirouac, Red Lake Road, Ontario	March 31st, 1966	New transaction
1942/65	June 3/65	Part Frecheville and Holloway Twp.	Howard-Bienvenu Inc., La Sarre, Quebec	March 31st, 1966	New transaction
1945/65	June 3/65	Territorial District of Kenora	Bruce Campbell, Quibelle, Ontario	March 31st, 1966	New transaction
1948/65	June 3/65	Part of Twps. of Massey and Cote	Marlette Lumber Ltd., 373 Commercial Ave., Timmins, Ontario	March 31st, 1966	New transaction

TIMBER SALES FROM APRIL 1st, 1964 TO MARCH 31st, 1965

Date Sold 1964	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$	
Apl. 3	Block 5—Joan Peninsula, Joan Twp.	0.2	1	William Milne & Sons Ltd., P.O. Box 159, Tenagami, Ontario	white pine sawlogs red pine sawlogs spruce sawlogs	nil nil nil	7.00 5.00 3.00	5.00 5.00 4.00	12.00 10.00 7.00	per M.B.M. " "
Apl. 3	Part Haycock Twp.	1.0	2	Alfred Loughheed, R.R. #2, Emo, Ontario	j. pine pulpwood spruce pulpwood	0.65 1.10	0.65 1.20	2.00 2.80	3.30 5.10	" cord "
Apl. 30	Part Gowan Twp.	0.2	2	Porquis Forest Products Ltd., Porquis Junction, Ontario	spruce pulpwood spruce sawlogs	1.10 0.002	0.60 0.007	2.80 0.033	4.50 0.042	" cu. ft.
May 1	Part Blount Twp.	0.1	2	Edward Clement, Norembeaga, Ontario	spruce pulpwood balsam pulpwood	1.85 1.80	0.55 0.80	2.80 1.40	5.20 4.00	" cord "
May 5	Part Matheson Twp.	0.1	4	Roland Fortier, Ramore, Ontario	spruce pulpwood spruce sawlogs	1.70 0.01	0.60 0.007	2.80 0.033	5.10 0.05	" cu. ft.
May 5	Part Kennedy Twp.	0.1	3	Walter Recoskie, Brower, Ontario	spruce pulpwood balsam pulpwood	3.11 4.26	0.55 0.80	2.80 1.40	6.46 6.46	per cord "
May 5	Part Kennedy Twp.	0.1	3	Howard Recoskie, Brower, Ontario	spruce pulpwood balsam pulpwood	3.17 4.32	0.55 0.80	2.80 1.40	6.52 6.52	" "
May 14	Part Kennedy Twp.	1.5	3	Paul Girard Co. Ltd., Cochrane, Ontario	spruce pulpwood balsam pulpwood	1.20 1.05	0.55 0.80	2.80 1.40	4.55 3.25	" "
June 16	Part Adams Twp.	2.4	2	Malette Lumber Ltd., 375 Commercial St., Timmins, Ontario	spruce sawlogs spruce pulpwood	0.004 0.30	0.005 0.40	0.033 2.80	0.042 3.50	" cu. ft. cord
June 16	Part Gillies Limit Twp.	4.0	2	The Morrison Bros. Ltd., Box 60, Sturgeon Falls, Ontario	white pine sawlogs spruce sawlogs cedar sawlogs	nil nil nil	10.00 6.00 3.00	5.00 4.00 3.00	15.00 10.00 6.00	per M.B.M. " "
					y. birch sawlogs	16.00	10.00	5.00	31.00	"
					w. birch sawlogs	6.00	7.50	1.50	15.00	"
					maple sawlogs	5.00	nil	5.00	10.00	"
					spruce pulpwood	nil	1.20	2.80	4.00	" cord
					balsam pulpwood	nil	0.60	1.40	2.00	"



June 16	Part Stevens Island	0.3	1	Devlin Timber Co. Ltd., 59 Drewry Drive, Kenora, Ontario	white pine sawlogs spruce sawlogs	nil nil	0.042 0.032	0.075 0.065	" "	cu. ft.
June 17	Part Dundonald Twp.	1.4	4	J. Puckalo, P.O. Box 20, Iroquois Falls, Ontario	balsam pulpwood spruce pulpwood spruce sawlogs	3.00 1.60 0.02	0.60 0.60 0.007	5.00 5.00 0.06	" " cu. ft.	cord
June 25	Part Fournier Twp.	0.1	2	Cree Logging & Pulp Co. Ltd., Box 1430, Cochrane, Ontario	spruce pulpwood	1.54	0.20	4.54	"	cord
June 25	Part McClure and Herschel Twps.	0.5	3	G. W. Martin Lumber Ltd., Harcourt, Ontario	maple sawlogs y. birch sawlogs basswood sawlogs white pine sawlogs ash sawlogs spruce sawlogs balsam sawlogs hemlock sawlogs w. birch sawlogs poplar sawlogs cherry sawlogs red pine sawlogs cedar sawlogs oak sawlogs beech sawlogs hardwood pulpwood balsam pulpwood	3.00 11.00 11.00 8.00 8.00 8.00 10.00 5.00 10.00 2.00 10.00 4.00 5.00 2.00 10.00 1.90 0.75	6.00 9.00 9.00 9.00 4.00 10.00 4.00 4.00 5.50 3.50 4.00 9.00 4.00 5.00 5.00 0.10 0.35	14.00 25.00 25.00 22.00 17.00 22.00 18.00 12.00 17.00 7.00 19.00 18.00 12.00 12.00 17.00 2.50 2.50	per "	M.B.M.
June 29	Part Godfrey Twp.	0.9	2	Pedskalny Timber Co. Ltd., Nellie Lake, Ontario	spruce pulpwood balsam pulpwood tamarack pulpwood	0.65 1.10 2.00	0.60 0.85 0.85	4.05 3.35 4.25	" " "	"
June 29	Part McClure Twp.	0.1	1	G. W. Martin Lumber Ltd., Harcourt, Ontario	maple sawlogs y. birch sawlogs beech sawlogs hemlock sawlogs balsam sawlogs spruce sawlogs cedar sawlogs oak sawlogs white pine sawlogs ash sawlogs basswood sawlogs hardwood pulpwood balsam pulpwood	5.00 10.00 4.00 4.00 10.00 5.00 4.00 10.00 7.00 8.00 7.00 1.90 0.75	5.00 8.00 4.50 4.00 4.00 8.00 4.00 5.00 3.00 8.00 3.00 0.10 0.35	15.00 23.00 10.00 11.00 18.00 17.00 11.00 5.00 20.00 16.00 20.00 2.50 2.50	per "	M.B.M.

TIMBER SALES FROM APRIL 1st, 1964 TO MARCH 31st, 1965

Date Sold 1964	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$	
July 20	Part Herschel Twp.	0.2	2	G. W. Martin Lumber Ltd., Harcourt, Ontario	maple sawlogs	2.00	6.00	5.00	13.00	M.B.M. per
					y. birch sawlogs	5.00	9.00	5.00	19.00	"
					basswood sawlogs	6.00	9.00	5.00	20.00	"
					beech sawlogs	3.00	5.50	1.50	10.00	"
					hemlock sawlogs	5.00	4.00	3.00	12.00	"
					elm sawlogs	6.00	3.00	5.00	14.00	"
					ash sawlogs	6.00	4.00	5.00	15.00	"
					cherry sawlogs	10.00	4.00	5.00	19.00	"
					oak sawlogs	10.00	5.00	5.00	20.00	"
					white pine sawlogs	8.00	9.00	5.00	22.00	"
					balsam pulpwood	4.00	0.35	1.40	5.75	cord
					hardwood pulpwood	1.50	0.10	0.50	2.10	"
July 31	Area South of East Lake	0.8	1	Ed. H. Wilson, Jones, Ontario	j. pine sawlogs	0.005	0.0065	0.0235	0.035	eu. ft.
					j. pine pulpwood	0.05	0.55	2.00	2.60	cord
					spruce pulpwood	0.20	1.50	2.80	4.50	"
July 31	Part Chandos Twp.	0.5	2	Mac Wilson, R.R. # 3, Coe Hill, Ontario	poplar sawlogs	1.00	4.50	1.50	7.00	M.B.M. per
					maple sawlogs	3.25	9.00	5.00	17.25	"
					white pine sawlogs	nil	10.00	5.00	15.00	"
					w. birch sawlogs	7.00	6.50	1.50	15.00	"
					spruce sawlogs	1.00	10.00	4.00	15.00	"
					hemlock sawlogs	nil	5.00	3.00	8.00	"
					oak sawlogs	2.00	5.00	5.00	12.00	"
					elm sawlogs	nil	5.00	5.00	10.00	"
					basswood sawlogs	nil	12.00	5.00	17.00	"
					balsam sawlogs	nil	6.00	4.00	10.00	"
					ash sawlogs	1.00	4.00	5.00	10.00	"
					cedar sawlogs	2.00	5.00	3.00	10.00	"
					y. birch sawlogs	nil	15.00	5.00	20.00	"
					tamarack sawlogs	nil	5.00	3.00	8.00	"
Aug. 7	Lot 6, Concession VIII, Paraday Twp.	0.2	2	Peter Freymond, Bancroft, Ontario	w. pine sawlogs	2.50	10.00	5.00	17.50	M.B.M. per
					spruce sawlogs	3.00	10.00	4.00	17.00	"
					balsam sawlogs	2.00	6.00	4.00	12.00	"
					cedar sawlogs	3.00	4.00	3.00	10.00	"
					maple sawlogs	2.00	8.00	5.00	15.00	"
					basswood sawlogs	2.00	10.00	5.00	17.00	"

Aug. 14	Part Ashby Twp., Compartment 75	0.1	2	George Stein, Schutt, Ontario	5.00	9.00	4.00	18.00	per	M.B.M.
				spruce sawlogs	5.00	9.00	4.00	18.00	"	"
				balsam sawlogs	5.00	6.00	4.00	15.00	"	"
				hemlock sawlogs	5.00	4.00	3.00	12.00	"	"
				cedar sawlogs	5.00	4.00	3.00	12.00	"	"
				maple sawlogs	8.00	7.00	5.00	20.00	"	"
				y. birch sawlogs	5.00	10.00	5.00	20.00	"	"
				w. birch sawlogs	7.00	3.50	1.50	12.00	"	"
				oak sawlogs	5.00	5.00	5.00	15.00	"	"
				beech sawlogs	7.00	3.50	1.50	12.00	"	"
				poplar sawlogs	4.00	3.50	1.50	9.00	"	"
				elm sawlogs	2.00	5.00	5.00	12.00	"	"
				hardwood pulpwood	nil	0.25	0.50	0.75	"	cord
Aug. 14	Compartment 88, Ashby Twp.	0.2	1	Thomas J. Neuman, Palmer Rapids, Ontario	1.00	4.00	3.00	8.00	per	M.B.M.
				hemlock sawlogs	nil	4.00	3.00	7.00	"	"
				cedar sawlogs	2.00	10.00	5.00	17.00	"	"
				maple sawlogs	1.50	7.00	5.00	13.50	"	"
				y. birch sawlogs	2.00	10.00	5.00	17.00	"	"
				elm sawlogs	1.00	5.00	5.00	11.00	"	"
				ash sawlogs	nil	5.00	5.00	10.00	"	"
				beech sawlogs	1.00	3.50	1.50	6.00	"	"
				oak sawlogs	2.00	5.00	5.00	12.00	"	"
				w. birch sawlogs	2.00	3.50	1.50	7.00	"	"
				poplar sawlogs	1.00	3.50	1.50	6.00	"	"
				hardwood pulpwood	0.25	0.25	0.50	1.00	"	cord
Aug. 14	Part Gould Twp.	0.1	7	Jack Hermiston, R.R. #3, Iron Bridge, Ontario	17.00	25.00	5.00	47.00	per	M.B.M.
				y. birch sawlogs	7.00	10.00	5.00	22.00	"	"
				maple sawlogs	7.00	10.00	5.00	22.00	"	"
				oak sawlogs	2.00	5.00	3.00	10.00	"	"
				hemlock sawlogs		5.00			"	"
Aug. 21	Part Kennedy Twp.	0.1	1	Paul Emile Viau, Box 196, Cochrane, Ontario	0.65	0.55	2.80	4.00	"	cord
				spruce pulpwood	3.90	0.80	1.40	6.10	"	"
				balsam pulpwood					"	"
Sept. 18	Part Boys Twp.	0.8	1	William Perchuk, P.O. East Brantree, Manitoba	nil	0.0165	0.0235	0.04	"	cu. ft.
				j. pine sawlogs	nil	0.04	0.03	0.07	"	"
				j. pine poles 0-10	nil	0.04	0.04	0.08	"	"
				j. pine poles 10-20	nil	0.04	0.05	0.09	"	"
				j. pine poles 20-30	nil	0.04	0.06	0.10	"	"
				j. pine poles over 30	nil	0.04	0.06	0.10	"	"
				spruce pulpwood	1.51	1.70	2.80	6.01	"	cord

TIMBER SALES FROM APRIL 1st, 1964 TO MARCH 31st, 1965

Date Sold 1964	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$
Sept. 18	North of Cross Inlet	0.9	1	Cecil G. Treadway, Box 95, Sioux Narrows, Ontario	j. pine pulpwood spruce pulpwood	nil nil	0.55 1.70	2.00 2.80	2.55 4.50
Sept. 18	Parts Gidley and Pellat Twps.	0.2	2	Charles Leray, R.R. #1, Kenora, Ontario	j. pine pulpwood spruce pulpwood j. pine sawlogs	0.45 0.75 0.02	0.55 1.70 0.0065	2.00 2.80 0.0235	3.00 5.25 0.05
Sept. 18	Part Falcon Island, Lake of the Woods	0.2	1	Nilson and Depner, Box 556, Kenora, Ontario	j. pine pulpwood balsam pulpwood spruce pulpwood	nil nil 0.05	0.55 0.60 1.70	2.00 1.40 2.80	2.55 2.00 4.55
Sept. 18	South of Knickerbocker Inlet Lake of the Woods	0.1	1	Walter E. Larson, Box 245, Sioux Narrows, Ontario	j. pine pulpwood spruce pulpwood	nil nil	0.55 1.70	2.00 2.80	2.55 4.50
Sept. 18	Gun Lake Area	0.2	5	Arthur Durand, Box 24, Minaki, Ontario	j. pine pulpwood spruce pulpwood balsam pulpwood	1.00 1.85 1.00	0.55 1.45 0.60	2.00 2.80 1.40	3.55 6.10 3.00
Oct. 2	Lots 7, 8, 9, Conc. IX and X S½ Lot 9, Conc. XI, Ferrie, Twp.	0.5	7	Jerome Hummel, Trout Creek, Ontario	y. birch sawlogs maple sawlogs basswood sawlogs elm sawlogs spruce sawlogs	23.50 9.00 6.00 7.00 6.00	13.00 4.00 9.00 2.00 8.00	5.00 5.00 5.00 5.00 4.00	41.50 18.00 20.00 14.00 18.00
Oct. 2	N. E. of Sword Lake	0.6	4	Ken Treadway, 1217 Tenth St. N., Kenora, Ontario	j. pine pulpwood spruce pulpwood balsam pulpwood	0.75 1.30 1.00	0.25 1.20 0.60	2.00 2.80 1.40	3.00 5.30 3.00
Oct. 2	Pistol Lake, Sale #3	0.42	5	Albert J. Griffiths, R.R. #1, Kenora, Ontario	j. pine pulpwood spruce pulpwood balsam pulpwood	1.05 1.87 1.12	0.25 1.20 0.60	2.00 2.80 1.40	3.30 5.87 3.12
Oct. 2	Block 24 c, Jones Road	0.1	3	Murray McRoberts, 19 Seventh St. S., Kenora, Ontario	j. pine pulpwood spruce pulpwood	0.20 1.00	0.75 1.45	2.00 2.80	2.95 5.25

M.B.M.

per

cord



Oct.	2	Block II, Gordon Lake Road	3.5	1	Hoey & McMillan Ltd., Box 128, Dryden, Ontario	r. pine sawlogs j. pine sawlogs spruce sawlogs j. pine pulpwood spruce pulpwood balsam pulpwood	0.01 0.0254 0.013 0.15 0.25 0.25	0.037 0.0011 0.033 0.10 1.20 0.60	0.033 0.0235 0.033 2.00 2.80 1.40	0.08 0.05 0.06 2.25 4.25 2.25	" " " per " "	eu. ft.
Oct.	2	Part Paxton Twp.	1.2	9	Stanley Stickland, Box 124, Sundridge, Ontario	y. birch sawlogs maple sawlogs hemlock sawlogs spruce sawlogs w. pine sawlogs balsam sawlogs elm sawlogs	26.00 14.00 6.00 7.00 10.00 10.00 10.00	10.00 4.00 3.00 6.00 10.00 1.00 1.00	5.00 5.00 12.00 4.00 5.00 4.00 5.00	41.00 23.00 3.00 16.00 22.00 15.00 16.00	per " " " " " "	M.B.M.
Oct.	2	Part Gould Twp.	0.3	2	John T. Eaket, Iron Bridge, Ontario	maple sawlogs y. birch sawlogs oak sawlogs hemlock sawlogs w. pine sawlogs spruce sawlogs	3.00 10.00 5.00 3.00 5.00 5.00	7.00 25.00 5.00 4.00 10.00 6.00	5.00 5.00 5.00 3.00 5.00 4.00	15.00 40.00 15.00 10.00 20.00 15.00	per " " " " "	M.B.M.
Oct.	2	Part Jones Road Area	0.07	4	Bernard Paquette, Box 93, Kenora, Ontario	j. pine pulpwood spruce pulpwood	0.75 1.40	0.75 1.45	2.00 2.80	3.50 5.65	" "	cord
Oct.	9	Part Clancy Twp.	0.7	2	T. Howard Hostler, 663 Angle Street, Pembroke, Ontario	hemlock sawlogs maple sawlogs y. birch sawlogs spruce sawlogs balsam sawlogs hemlock pulpwood spruce pulpwood balsam pulpwood	1.26 0.26 6.26 nil nil nil nil nil	1.00 1.50 11.00 4.00 1.50 0.10 0.40 0.20	3.00 5.00 5.00 4.00 4.00 1.40 2.80 1.40	5.26 6.76 22.26 8.00 5.50 1.50 3.20 1.60	per " " " " " " "	M.B.M.
Oct.	9	Part Sherbourne Twp.	1.6	3	Lorne Bailey Lumber Co., Box 298, Haliburton, Ontario	maple sawlogs y. birch sawlogs beech sawlogs hemlock sawlogs elm sawlogs poplar sawlogs ash sawlogs balsam sawlogs spruce sawlogs w. birch sawlogs cherry sawlogs	6.50 8.00 nil nil nil nil 1.00 1.00 2.50 2.00 2.00	5.00 8.00 2.00 1.50 2.00 2.50 3.00 4.00 4.00 3.50 3.00	5.00 5.00 1.50 3.00 5.00 1.50 5.00 4.00 4.00 1.50 5.00	16.50 21.00 3.50 4.50 7.00 4.00 9.00 9.00 10.50 7.00 10.00	per " " " " " " " " " " "	M.B.M.

TIMBER SALES FROM APRIL 1st, 1964 TO MARCH 31st, 1965

Date Sold 1964	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$
Oct. 9	Part Lyndoch Twp.	0.2	4	Donald Lafee, Denbigh, Ontario	oak sawlogs	2.00	3.00	5.00	10.00
					w. pine sawlogs	3.00	8.00	5.00	16.00
					basswood sawlogs	2.00	7.00	5.00	14.00
						2.00	5.00	5.00	12.00
					w. pine sawlogs	9.50	8.00	5.00	22.50
					spruce sawlogs	6.00	10.00	4.00	20.00
					balsam sawlogs	8.00	4.00	4.00	16.00
					hemlock sawlogs	3.00	3.00	3.00	11.00
					cedar sawlogs	8.00	3.00	3.00	14.00
					maple sawlogs	7.00	6.00	5.00	18.00
					y. birch sawlogs	8.00	9.00	5.00	22.00
					ash sawlogs	8.00	3.00	5.00	16.00
					w. birch sawlogs	8.00	4.50	1.50	14.00
					elm sawlogs	6.00	3.00	5.00	14.00
					poplar sawlogs	3.00	2.50	1.50	7.00
					hardwood pulpwood	0.30	0.25	0.50	1.05
Oct. 16	Swan Lake Indian Reserve 5.1 (Area East)		4	Mac Morrison, R.R. #2, Kenora, Ontario	spruce pulpwood	1.57	0.70	2.80	5.07
					j. pine pulpwood	0.42	0.25	2.00	2.67
					balsam pulpwood	0.77	0.60	1.40	2.77
					spruce sawlogs	0.019	0.008	0.033	0.06
					j. pine sawlogs	0.005	0.003	0.0235	0.0315
Oct. 16	Part McConkey Twp.	0.6	8	Paul Timpano, Loring, Ontario	y. birch sawlogs	13.00	12.00	5.00	30.00
					maple sawlogs	9.00	4.00	5.00	18.00
					basswood sawlogs	6.00	9.00	5.00	20.00
					elm sawlogs	9.00	3.00	5.00	17.00
					w. pine sawlogs	8.00	10.00	5.00	23.00
					hemlock sawlogs	7.00	2.00	3.00	12.00
Oct. 30	Part Joly Twp.	0.3	5	Jim Young, Powassan, Ontario	y. birch sawlogs	30.00	13.00	5.00	48.00
					maple sawlogs	6.50	4.00	5.00	15.50
					elm sawlogs	1.00	2.00	5.00	8.00
Nov. 6	Part Ferrie Twp.	1.6	1	Percy Brear, Maple Island, Ontario	y. birch sawlogs	28.00	10.00	5.00	43.00
					basswood sawlogs	5.00	8.00	5.00	18.00
					maple sawlogs	8.00	2.00	5.00	15.00
					spruce sawlogs	3.00	6.00	4.00	13.00
					w. pine sawlogs	3.00	8.00	5.00	16.00

[illegible]

TIMBER SALES FROM APRIL 1st, 1964 TO MARCH 31st, 1965

Date Sold 1964	Locality	Area Sq. M.	No. of Tenders	To Whom Sold	Kind of Timber	Bid \$	Bonus \$	Dues \$	Total \$	
Dec. 21	Part of Vankoughnet Twp.	1.6	4	S. Joseph Logging Co., Ltd., Goulais River, Ontario	0-10 cu. ft. 10-20 cu. ft. 20-30 cu. ft. maple sawlogs y. birch sawlogs spruce sawlogs w. pine sawlogs elm sawlogs w. birch sawlogs ash sawlogs oak sawlogs balsam sawlogs hemlock sawlogs cedar sawlogs	0.04 0.03 0.04 5.50 18.50 2.50 1.50 5.50 8.50 5.00 5.00 4.00 4.00 4.00	0.01 0.02 0.02 5.00 20.00 8.00 10.00 5.00 10.50 5.00 5.00 6.00 4.50 4.50	0.03 0.04 0.05 5.00 5.00 4.00 5.00 5.00 1.50 5.00 5.00 4.00 3.00 3.00	0.08 " " " " 15.50 43.50 14.50 16.50 15.50 20.50 15.00 15.00 14.00 11.50 11.50	" " " " " " per M.B.M. "
Dec. 31	All of Twp. 26 & 27, Ranges XVII, XVIII, XIX.	214.6	4	Wholesale Homes Ltd., 158 Elm Street East, Sudbury, Ontario	w. pine sawlogs spruce sawlogs w. birch sawlogs maple sawlogs y. birch sawlogs spruce pulpwood	1.00 2.00 16.00 10.00 15.50 nil	6.00 4.00 2.50 nil 5.00 0.20	5.00 4.00 1.50 5.00 5.00 2.80	12.00 10.00 20.00 15.00 25.50 3.00	per M.B.M. " " " " " " " " cord
Jan. 6 1965	Part Rugby Twp.	0.08	3	Winston J. Ankney, General Delivery, Dryden, Ontario	j. pine pulpwood spruce pulpwood	0.85 1.15	nil 0.20	2.00 2.80	2.85 4.15	per cord " "
Jan. 8 1965	Part Rugby Twp.	0.06	5	Ray Karjalainen, General Delivery, Dryden, Ontario	j. pine pulpwood spruce pulpwood	1.56 4.06	nil 0.20	2.00 2.80	3.56 7.06	" " " "
Jan. 22 1965	Area West of Shoal Lake	9.3	1	E. Holmgren & Sons Ltd., Sprague, Manitoba	j. pine pulpwood spruce pulpwood balsam pulpwood poplar pulpwood spruce sawlogs	nil 0.21 0.06 nil nil	0.55 1.20 0.60 0.50 0.037	2.00 2.80 1.40 0.50 0.033	2.55 4.21 2.06 1.00 0.070	" " " " " " " " cu. ft.
Jan. 22 1965	Lot 9 & 10, Conc. 4 Rugby Twp. (Parts)	0.05	2	Walter Ankney, Box 386, Dryden, Ontario	j. pine pulpwood spruce pulpwood	0.85 1.15	nil 0.20	2.00 2.80	2.85 4.15	" cord " "
Feb. 26 1965	Poplar Island, Lake of Woods	0.7	1	Dalseg's Limited, Morson, Ontario	w. pine sawlogs balsam pulpwood	nil nil	0.47 0.60	0.033 1.40	0.08 2.00	" cu. ft. " cord







BINDING SECT. JUL 30 1980

GOVT PUBNS





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